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GREAT COMBAT HANDGUNS

Leroy Thompson and René Smeets

Great Combat Handguns is an essential working reference for every person or institution engaged in using, collecting or training with, the world's best combat weapons. Now fully revised and updated, it features more than 300 photographs, diagrams and exploded-view drawings of over fifty of the world's principal pistols and revolvers.

This second edition begins with a short but informative résumé of the growth of combat handguns, through the early days in Europe, the growth of the revolver in America and the massive burst in development that took place during the nineteenth century.

There is a new section on handgun firing techniques, which includes assessment of military and police combat styles and training. New chapters include advice on the many handgun carrying techniques and their suitability for different tasks and weapons, and a detailed look at combat ammunition performance.

The gun directory covers more than fifty of the world's most important or respected combat handguns, gives the essential technical data for each gun – its calibre, length, weight, capacity and construction – plus a detailed description of the weapon, its handling and firing notes. All these weapons have been tested specially for the book.

In addition to the many diagrams, *Great Combat Handguns* is illustrated throughout with more than 300 carefully chosen, high-quality black and white photographs, which show the weapons in use and in their component parts.

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GREAT COMBAT HANDGUNS

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**A guide to using, collecting and training
with handguns**

**Leroy Thompson & René Smeets
edited by John Walter**



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Note

Throughout this book, to prevent unnecessarily cluttering
the text, only the principal dimensions have been given in
dual metric/imperial terms. Most of the range tests and
shooting results appear 'as measured', and all bullet weights
are expressed in grains (abbreviated throughout as gn)
rather than grams (gm). The majority of exploded diagrams
are from manufacturers' material, and where possible these
use the manufacturer's own number systems.

Useful conversion factors

To convert grains to ounces – multiply by 0.00229
To convert grains to grams – multiply by 0.0648
To convert inches to millimetres – multiply by 25.4
To convert ounces to grams – multiply by 28.35
To convert pounds to kilograms – multiply by 0.454
To convert feet to metres – multiply by 0.305
To convert yards to metres – multiply by 0.914
To convert ounces to grains – multiply by 437.5
To convert grams to grains – multiply by 15.43
To convert millimetres to inches – multiply by 0.0394
To convert grams to ounces – multiply by 0.0353
To convert kilograms to pounds – multiply by 2.205
To convert metres to feet – multiply by 3.281
To convert metres to yards – multiply by 1.0937

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Preface

Testing and evaluation

Any book such as this is inevitably subjective and the thousands of miles separating the authors complicates selection. As the revolver is appreciably more important in the USA than Europe, the attention given to Charter Arms, Colt, Ruger and Smith & Wesson is necessarily more comprehensive than that given to the individual European gunmakers who, considered corporately, produce a far greater number of differing designs.

Though the US gun-market is vast in size and distribution, it operates within a single national border. Despite the occasional quirks of individual state legislation, American-made guns are readily obtainable for testing. In Europe, unfortunately, barriers of trade, language, law and politics often hinder the acquisition of 'foreign' pistols by private individuals.

Though John Browning was American, some of his finest designs were manufactured in Belgium. Browning excepted, virtually all the major pistol inventors have been European, largely because the indigenous American automatic has never attracted the attention paid to the revolvers of Colt and Smith & Wesson, or, latterly, modern companies such as Ruger and Charter Arms. As a result, the choice of a European-made combat automatic is particularly vast.

Few of the small automatic pistols made in Europe are considered as 'combat guns' in their countries of origin. Though they may interest American enthusiasts seeking 'back-up' weapons, their European distribution is greatly restricted by law. In France, for example, the standard five-year licence grants gun ownership and an annual allocation of 500 rounds; in Britain, the firearms licence is renewable annually; in other countries, uniformed policemen are not even allowed to carry a gun off duty. Consequently, these small pistols are not only difficult to obtain but also rarely used.

The guns evaluated for this book include some classics, dating back to the turn of the century, and many brand-new designs. Each has been chosen because it offers features

making it specially attractive for combat use, or is so widely used by police, civilians and military agencies that it could not be overlooked. Guns that have yet to achieve full commercial production, such as the Bren Ten and the Smith & Wesson Model 645, have not been included. Some pistols have proved impossible to obtain, owing to manufacturers' understandable reluctance to release guns before the inevitable teething troubles have been eliminated: years may elapse between the announcement of a new design and the appearance of guns in the shops. Walther, for example, declined to submit a P88 and it took superhuman efforts to obtain the Heckler & Koch P7M13 and SIG P226.

Other highly specialized or rarely encountered guns have been omitted, like the German Korriphila pistol, together with military guns unobtainable commercially – including the French MAC 50 – and burst-fire 'machine pistols' such as the Heckler & Koch VP70, the Beretta 93R and the Russian Stechkin.

We believe we have selected many of the best and most widely available combat guns, plus some poorer performers whose inclusion is warranted by misleading advertising claims. No-one needs 25 handguns, yet there are appreciably more than 25 combat-worthy European automatic pistols alone. While using this book as a basis for choosing a combat gun, therefore, the evaluations should be read with particular attention to the situations in which the gun is likely to be used. In this way, a decision can be based on substance rather than mere theory. The more varied tasks a handgun must fulfil, however, the more difficult selection becomes; and the best combat handgun may well be whatever is one's hand when life is threatened. But it makes sense to stack the odds on survival by selecting as efficient a gun as possible. Even though the ultimate choice is yours, we hope we have provided some useful guidance.

LEROY THOMPSON
RENE SMEETS

Combat Handguns

I. Europe: the early days

Handgun combat shooting undoubtedly has its origins in Europe, with the invention of the wheel-lock cavalry pistol. Until the eighteenth century, the wheel-lock and its improved successors – the snaphaunce and the flintlock – remained exclusively martial, and confined largely to mounted units. Unlike a longarm, the pistol could be manipulated in one hand while holding the reins with the other. For much of the ‘cavalry period’ before the First World War, until the machine-gun destroyed the massed charge for ever, the pistol remained a primary weapon alongside the sabre and the carbine.

The cavalry pistols were originally carried as a pair, in large holsters affixed to the saddle, but little thought was given to sophisticated pistol fighting techniques – quite unlike the ‘scientific’ study of the lance or sabre. Most cavalymen simply charged up to the enemy, fired both pistols as rapidly as possible from close range, and then retired smartly to reload.

During the eighteenth century, however, new uses were found for the pistol, by now a shorter, lightened flintlock. The reduction in size allowed guns to be carried for personal defence and – the inevitable corollary – personal aggression. Increasing numbers of private citizens carried one or more short pistols to fight off the bands of marauders that haunted many a dark city street. Firing was almost always point-blank, or at least at ultra-short range, with the only proviso that the gun should be pointed in the direction of the target. If the shot missed, and the gun was insufficiently sturdy to be used as a club, the firer was best advised to run. During this period, experiments were made to increase firepower: magazine and revolving pistols were tested, with-

out success, though guns such as the ‘duck’s foot’, which fired a swathe of lead from its splayed multiple barrels, enjoyed brief popularity. Though poor contemporary technology hindered developments, the breech-loading ‘turn off’ pistol, particularly popular in Britain, undoubtedly improved accuracy.

One important role filled by the pistol, particularly during the eighteenth and early nineteenth centuries, was in settling the nobility’s affairs of honour: the duel. The importance of a single well-aimed shot was such that many of the greatest gunmakers of their time – Manton and Mortimer in England, Boutet in Napoleonic France – produced splendid matched pairs of duelling pistols, works of art that incorporated refinements such as muzzle-heavy barrels, hair-triggers, roller-borne frizzens and proprietary designs of pan and butt. Even the perfection early in the nineteenth century of the first ‘scent bottle’ percussion lock by a Scottish clergyman, Alexander Forsyth, initially did little but improve the certainty of a dueller’s ignition.

The importance of duelling, and its chivalric code, ensured that every gentleman worthy of name trained assiduously with pistol and sword. Against such a backdrop, it is scarcely surprising that attention was also paid to the stance as well as the tools of the trade. During this period, the classic standing position was evolved in an attempt to minimize the target offered by one shooter to his rival in the absence of cover. The current international rapid-fire and 50m Free Pistol courses still embody some of the traditional elements of the duellists’ art.

The duel, the first codified combat shooting, seems irrational by modern standards – but it must be remembered that the goal was as much to uphold a code of honour as promote deadly shooting. The idea that one participant, having fired and missed, should not move until his opponent had his chance to kill him clearly belongs to another age. However, experienced duellists soon

The birth of combat handgunning: the wheel-lock pistol, a cavalry weapon fired at close range.





learned to fire directly on the umpire's signal to gain a definite advantage; not only did it facilitate the first hit, preventing the opponent firing back, but it was known that nervous men often fired back instinctively even in unfavourable conditions. The cunning exponent of the duel stood upwind and fired first, so that the drift of his powder smoke inhibited his opponent's aim. The discipline necessary to fire as fast as possible, by gradually clearing one's mind and honing one's reactions, bears some similarity to modern-day martial arts techniques whose values are often overlooked in combat shooting.

II. America: the dawn of the revolver

Some of the earliest combat handguns used in the United States of America were the large flintlock dragoon pistols, used by cavalrymen at short range, and the comparatively few Kentucky pistols. The US Army had the .54-calibre Harper's Ferry pistol, adopted in 1805, and though many other guns were acquired early in the century, most were cumbersome coach or saddle pistols. Even the 'concealment arms' of the day were bulky by modern standards.

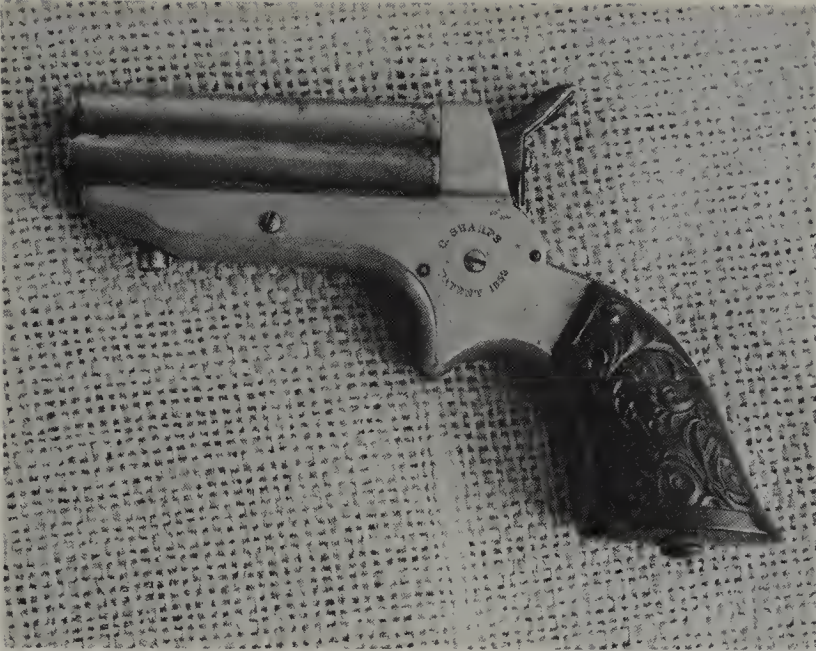
Perhaps the most important single event in the development of reliable combat handguns was the perfection of the self-contained percussion cap, generally credited to Joshua Shaw in about 1816 (though his researches probably commenced a little earlier). Though an American inventor, Elisha Collier, had produced a surprisingly good mechanically-operated flintlock revolver in this period, it was left to Samuel Colt to perfect the cap-lock repeater. Whether we

may believe Colt's celebrated explanation of his 'flash of genius', inspired by the spokes of a riverboat's wheel, or suspect he knew more of Collier's endeavours than he ever admitted, the fact remains that his initial patent was granted in 1835 and the first Paterson Colts appeared a short time later. The earliest Colt ventures failed, after only small numbers of revolvers and revolving rifles had been made, but the Walker Colt of 1847 and the Pocket Revolver of 1849 paved the way for the amazingly successful .36 Navy Colt of 1851. A .44 Army Revolver followed in 1860, setting the standards of the US Civil War's combat handguns. However, the 'Pocket Model' Colts were comparatively large even for the deep pockets of the day.

The early champion of concealability was the Philadelphia Deringer, attributed to the gunsmith/gun-dealer Henry Deringer. The name is usually corrupted to 'derringer', the spelling preferred here on the basis of common use. During the California Gold Rush of 1849, for example, the derringer was indispensable to miners, gamblers, saloon girls: in fact, to anyone needing handy protection. In the goldfields, that meant virtually everyone. Another popular small gun was the Pepperbox, a multi-barrel proto-revolver capable of delivering four, five, six or more rapid shots when the need arose. Though the origins of the Pepperbox lay in Europe, great numbers were sold in the Americas before the perfection and subsequent dispersal of the percussion revolver.

In 1857, Horace Smith and Daniel Wesson marketed an innovative revolver whose cylinder, with its bored-through chambers, accepted self-contained metal-case ammunition with priming compound in the prominent rim. Though the pioneering Model No.1 was only obtainable with the ineffectual .22 Short Rimfire round, it heralded a great advance in combat handgun efficiency. During the US Civil War, many Union (Federal) officers carried a small Smith & Wesson revolver to guard against the failure or loss of the larger service-issue guns.

The Civil War required enormous quantities of handguns. The Union forces were primarily armed with Colts or Remingtons, but there were appreciable quantities of Starrs, Whitneys and other service-calibre revolvers. Though Colts were also popular in the Confederacy, such guns were in desperately short supply. As the Southern states had few manufacturing facilities, most Confederate revolvers were acquired in Europe despite the production of a few Colt or Whitney copies made by Griswold & Gunnison, Leech & Rigdon and Spiller & Burr. A particularly interesting import was the French-made Le Mat, whose .65-calibre shot barrel doubled as the axis pin for the conventional revolver cylinder. The wielder of the Le Mat, therefore, had nine .40-calibre shots plus a charge of shot for use at close-quarters. Though the Le Mat is not an American design, most of its combat use occurred in the Civil War and it played an important part in US combat handgun development.

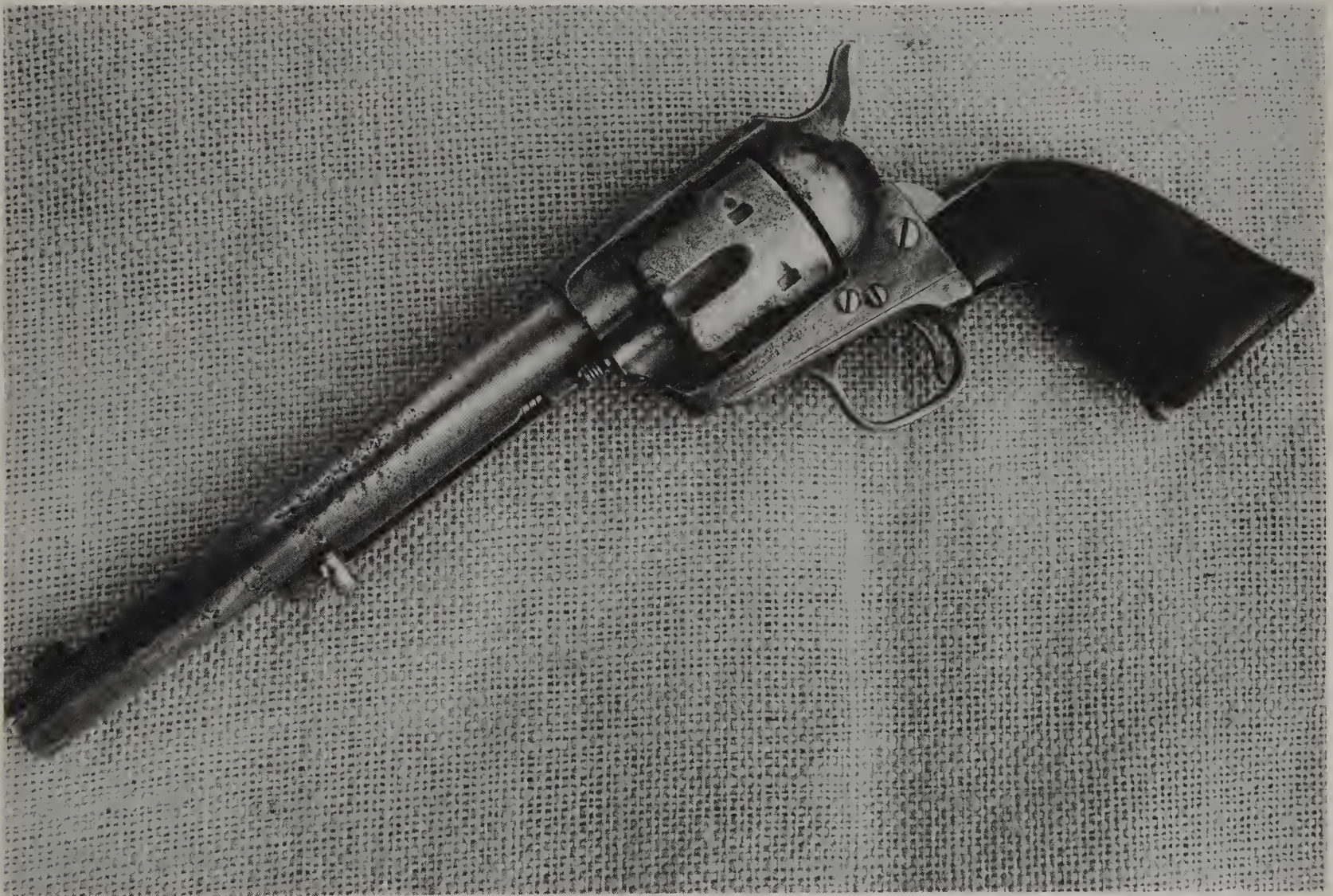


The Sharps four-barrelled derringer was a popular 'hide-out' gun in the late nineteenth century. (Courtesy of Bob Arganbright.)



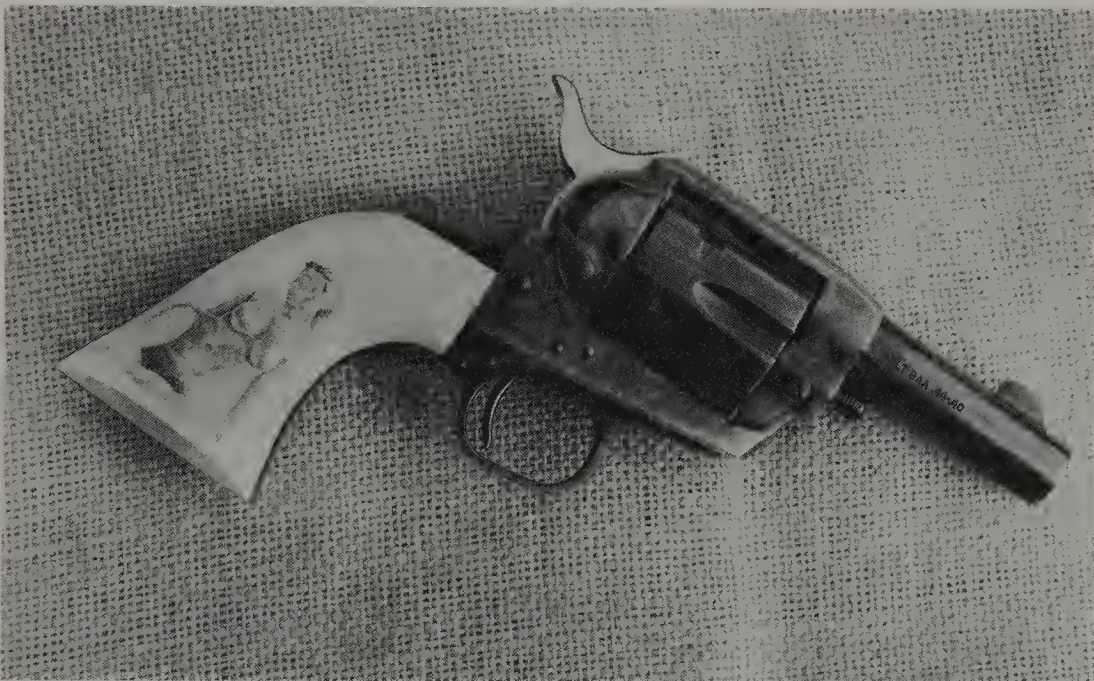
The gambler's and dance-hall girl's favourite close-quarters gun: the Remington-41 derringer.

One of the all-time classic combat handguns – The Colt Single Action Army Revolver of 1873. (Courtesy of Bob Arganbright.)

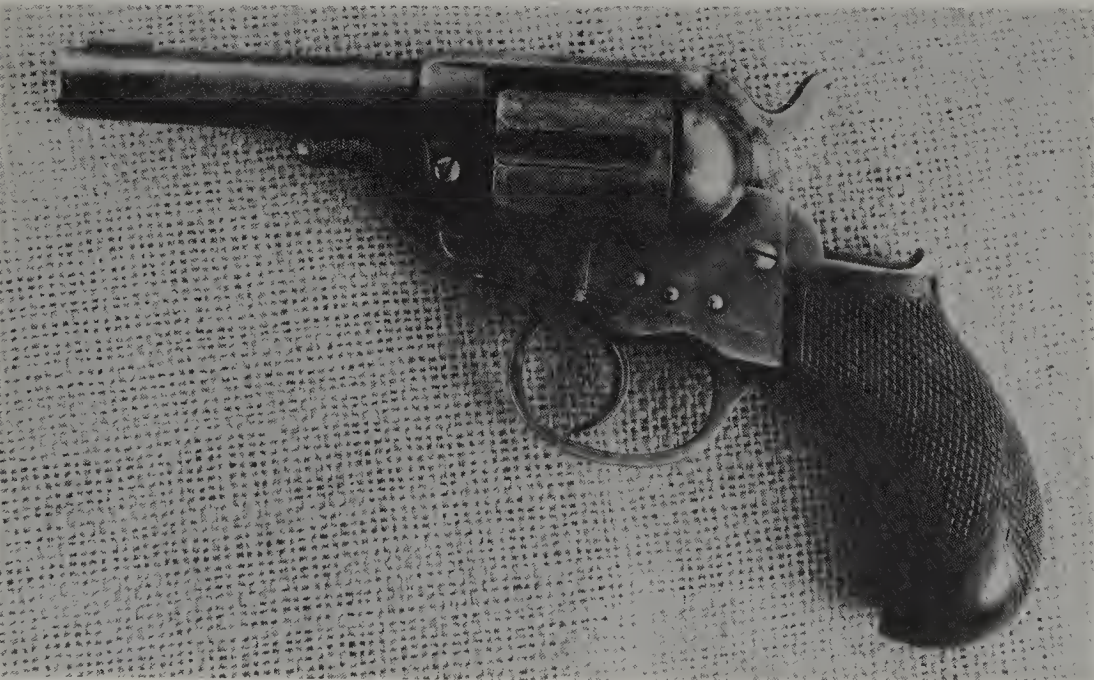




This Merwin-Hulbert .44-40, an early full-bore pocket revolver, saw action on the Western frontier.



A short-barrelled .44-40 Colt Single Action Army 'Sheriff's Model'. (Courtesy of Bob Arganbright.)



The Colt Lightning Revolver, in .38 and .41 calibres, was a popular combat gun from its introduction in 1877. Henry McCarty — alias William Bonney, or 'Billy the Kid' — was one of its principal advocates. (Courtesy of Bob Arganbright.)

The Colt Bisley revolver, specifically developed for target shooting. Note the flattened hammer spur compared with the standard Colt Single Action Army guns (see page 9), which improved the firer's view of the sights. (Courtesy of Bob Arganbright.)



Smith & Wesson's top-break Safety Hammerless Revolver, generally known as the 'Lemon Squeezer', was the most popular pocket revolver in the early years of the twentieth century.



The Borchardt pistol, patented in 1893, was the first commercially successful automatic. A little over three thousand were made in 1894-7. (Courtesy of John Walter.)

III. The late nineteenth century

Despite the exportation of French Le Mat revolvers during the US Civil War, together with the fragile Lefauchaux pinfires, the European combat handgun scene was in the doldrums during the middle of the nineteenth century. Most of the military authorities remained wedded to the concept of enormous single-shot percussion pistols, a tradition that was to persist well into the 1880s in some countries, while the commercial market was satisfied with a variety of pepperboxes and percussion revolvers, plus pin-fire guns offering self-contained metallic cartridges at the expense of a dangerously exposed igniter pin.

Initially, the impact of the US-style percussion revolver in Europe was minimal, despite a particularly acrimonious campaign waged between Colt and the Englishman Robert Adams, whose large-calibre double-action revolver was preferred to the Navy Colt by many enthusiasts. The British, largely on account of widespread colonial experience, were particularly suspicious of guns with a calibre as small as .36.

In the second half of the nineteenth century, the US market was completely dominated by the revolver, which answered needs ranging from short-range defence in the prospering towns of the eastern seaboard, gunfights in El

Paso or Dodge City, to cattle-driving through the empty wastes of Kansas and Missouri. In 1870, Smith & Wesson introduced their No.3 single action .44; three years later, sensing a loosening grip on the market, Colt replied with the Single Action Army Revolver (the 'Peacemaker'), destined to become the classic heavy combat revolver of the American West. The Smith & Wesson Schofield Model also entered production in 1873, while Remington produced a high quality holster revolver from 1875 until the 1890s. Though much less known, Merwin & Hulbert offered revolvers in .44-40, some of which were sufficiently compact to be the large-bore 'snubs' of their day, along with some awesome Webley 'Bulldog' revolvers chambering cartridges as large as the .476 Eley or .577 Boxer.

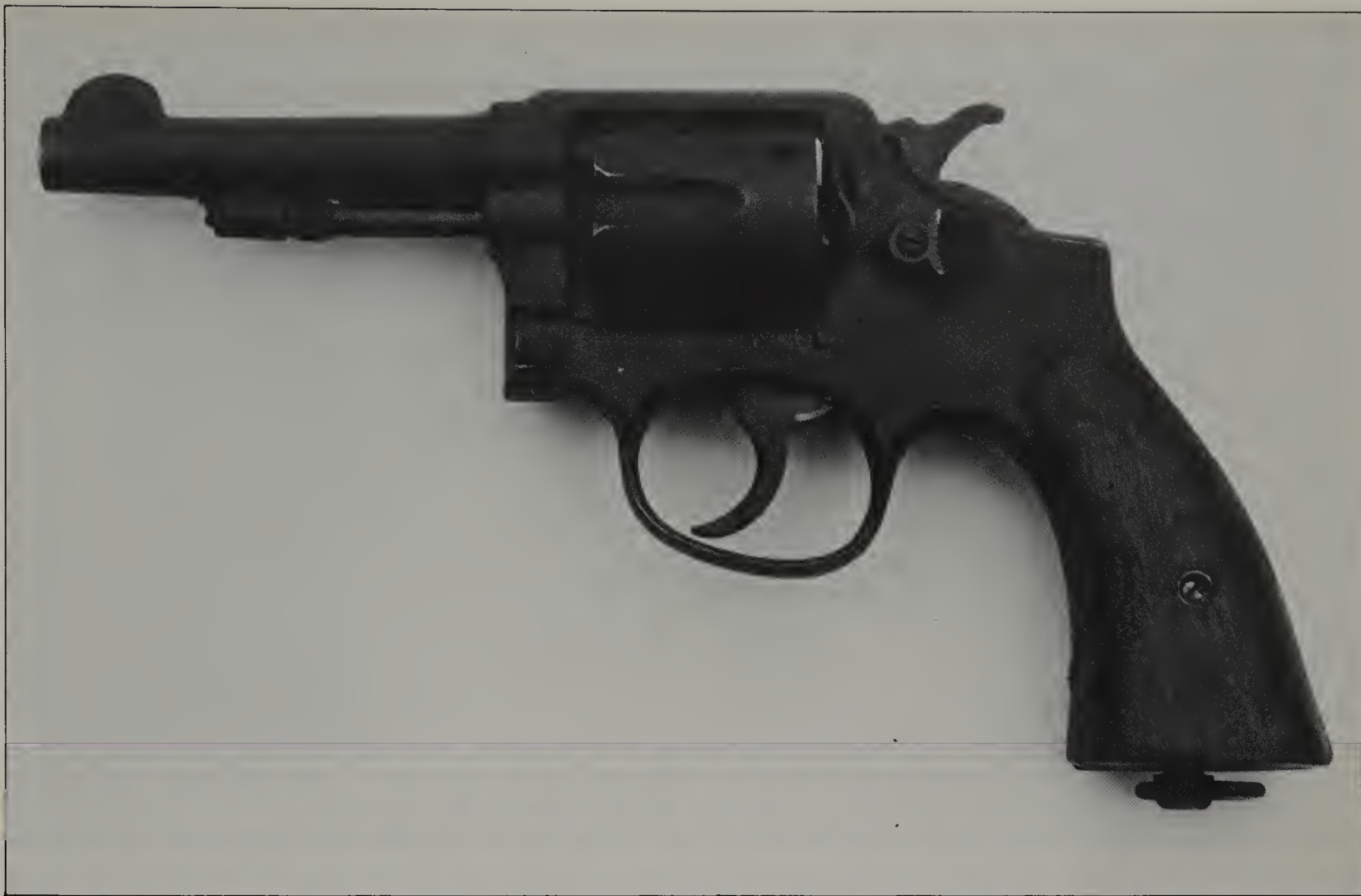
The real pocket revolvers of the period, however, were the .32 and .38 top-break Smith & Wessons introduced in 1880, to be followed in 1886 by the classic S&W double action Safety Hammerless Model or 'Lemon Squeezer' – so called owing to its grip safety. Colt had introduced the 'Cloverleaf' and Pocket Model revolvers in 1871, and, in 1877, had added the Colt Lightning double-action revolver in .38 and .41-calibre. However, its much-admired novelty soon paled in the West once the delicacy of the trigger system became obvious.

The readily concealable .41 rimfire Remington 'over-and-under' two-barrel derringer, dating from 1866, was extremely popular with gamblers, lawmen and others who needed a hideout or back-up gun. Iver Johnson, Hopkins & Allen, Harrington & Richardson and others all specialized in small .32 or .38-calibre top-break revolvers during the last quarter of the nineteenth century.

By the mid 1870s, greatly assisted by the efforts of inventors such as Adams, Tranter and Webley in Britain, and Chamelot & Delvigne or Nagant in Belgium, the revolver was also well established in Europe. The trend, however, was to smaller guns that could be supplied in presentation cases; combat shooting, in the manner practised in the American West, was all but unknown. During this period, the European revolver enthusiast favoured target shooting rather than combat training; and apart from the British Army, dispersed worldwide, few European armies used revolvers in anger. As the guns were largely issued to officers and senior NCOs, to be used only in emergencies, small size and comparatively small calibre were often desirable. The differing approaches may be seen by comparing the perfected Swiss service revolver of 1882 – an elegant gun firing an ineffectual 7.5mm cartridge – with the contemporary US Army revolver, the .45 Colt M1873! Only the British were prepared to investigate combinations of power and efficacy, adopting, alone among the European powers, the efficient auto-extracting top-break Webley in the autumn of 1887. The slow-moving .455 Webley bullet had great stopping power, and was destined to prove itself during the First World War. But the British Army was an exception; the attitude of Europe is better expressed by the

Colt's Model 1892 Army Revolver lacked stopping power. Experiences in the Philippine Islands convinced the US Army that something more powerful was needed, leading to the eventual introduction of the .45 M1911 Colt-Browning. (US National Archives, photograph 165-WW-3872-2.)





Smith & Wesson's famed Model 10, still in production, is one of the most famous of all combat guns. This is the 'Victory Model', produced during the Second World War.

Germans, who rejected a break-action Mauser revolver in favour of the simplest of simple 10.6mm-calibre solid-frame guns in 1879. As the role of the NCOs was supervisory, the Germans decided, they should not be involved in combat; thus, the revolver had no extraction system, the ejector rod being carried separately atop the cartridge box.

Once double-action metallic-cartridge revolvers began to dominate the combat revolver markets, the only major innovation missing was rapid reloading, the ejector rod of guns such as the Colt being essentially cumbersome. Webley, the champion of top-break and auto-extraction, rapidly became the leader in European revolver design once Chamelot & Delvigne had been eclipsed and the impact of the Nagant brothers began to recede under the onslaught of the automatic pistol. In the USA, the solution proved to be the swing-out cylinder; companies such as Harrington & Richardson and Iver Johnson championed small-calibre top-break revolvers commercially, but the US Army was unimpressed. The first yoke-mounted swinging cylinder revolvers were the Colt Navy Model of 1889 and Army Model of 1892, both chambered for the .38 Long Colt cartridge

that was to prove such an ineffectual manstopper in the Philippines that the .45 ACP was ultimately substituted. Smith & Wesson produced its first swinging-cylinder revolver, the Hand Ejector Model, in 1896. These early yoked-cylinder Colts and Smith & Wessons were the prototypes of the principal US twentieth-century combat revolvers.

IV. The rise of the automatic pistol

While the revolver was attaining its majority, efforts were being made to develop smokeless propellant – experiments, indeed, that began in the 1830s but were doomed to failure until the stabilization of nitroglycerine, the perfection of guncotton and progress through cordite to the French Poudre B, adopted with the 8mm French Lebel rifle and cartridge in 1887. During this period, many inventors had been testing mechanically operated pistols, relying on systems of links and rods to transform a pull on the trigger or an accompanying lever into sufficient power to extract, eject and reload. These experiments were doomed to failure, but may be seen to have loosened something of the hold of the revolver on the Central European inventive mind.

Many of the earliest automatic pistols also failed. Almost all were clumsy, many were unreliable and some chambered

badly designed cartridges. Only the Borchardt, introduced commercially in 1894, experienced much success among the earliest guns; its greatest legacy, however, is that the 7.65 and 9mm Parabellum cartridges were both based on it. In addition, owing to a complicated tangle of fortunes, the Loewe organisation allowed Mauser to take the Borchardt cartridge for the Mauser 'Broomhandle'. Where these guns led, many others followed. Initially, the work of inventors such as Georg Luger and John Browning had little impact on a market still obsessed with the revolver. By 1900, however, the perfected Borchardt-Luger pistol (the Parabellum, or 'Luger') and the first locked-breech double-link or 'parallel-motion' Colt-Brownings had paved the way towards military acceptance of the automatic pistol.

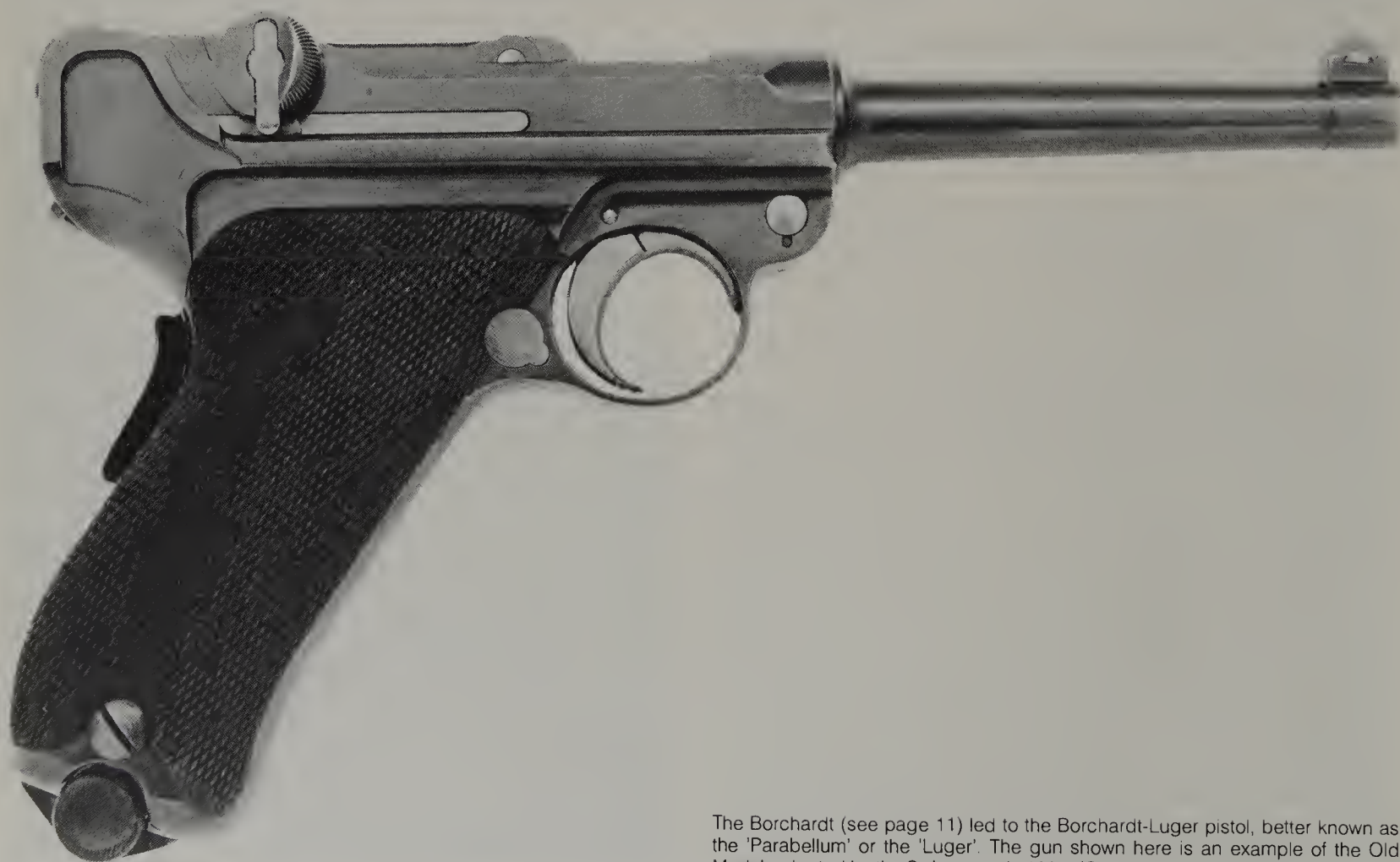
Soon, the commercial market was flooded with surprisingly effectual personal-defence pistols, inspired by the blowback Brownings made in Belgium by Fabrique Nationale and in the USA by Colt. Beginning in 1900, a million Mle 1900, Mle 1903, 1906 vintage 'Baby' and Mle 1910 FN-Browning pistols had sold by 1914, not even counting hundreds of thousands of Colt-made guns sold in the USA. Fortunes were to be made by the great distributors such as Manufacture d'Armes et Cycles de Saint-Etienne and A.L.Frank ('ALFA') of Hamburg, whose catalogues clearly illustrate the profusion of small European-made pistols jockeying for supremacy with the cheap Continental revolvers (mostly Belgian), better products such as Webleys

and Nagants, and the more desirable American imports.

The decade preceding the First World War saw a scramble to adopt the new self-loaders, or 'automatics' as they were popularly known. From this period come two of the classic combat handguns of all time: the German army Luger, the Pistole 08, and the US Army's M1911 Colt Browning. These guns typify radically differing approaches to combat-pistol shooting on the opposite sides of the Atlantic. The German gun, small and somewhat delicate, fired a comparatively small-diameter 9mm bullet (actually .357in) with surprising accuracy; the American gun, sturdy and comparatively simple, fired the man-stopping .45 ACP with acceptable accuracy.

The European shooting scene spawned a myriad shooting clubs like the famous Baerenzwinger Club in Berlin, numbering among its members Georg Luger and the renowned authority on pistol-shooting, Gerhard Bock. The clubs' patrons were often drawn from the aristocracy, their social success was considerable and their stilted disciplined shooting styles greatly influenced military practice. Though the value of accuracy was propounded constantly, no attempt was made to assess the known effects of combat stress or to combine accurate shooting with more stressful rapid fire. Even in the 1930s, many army manuals – British, Belgian, German and French alike – show the same rigid stances and the same emphasis on scores.

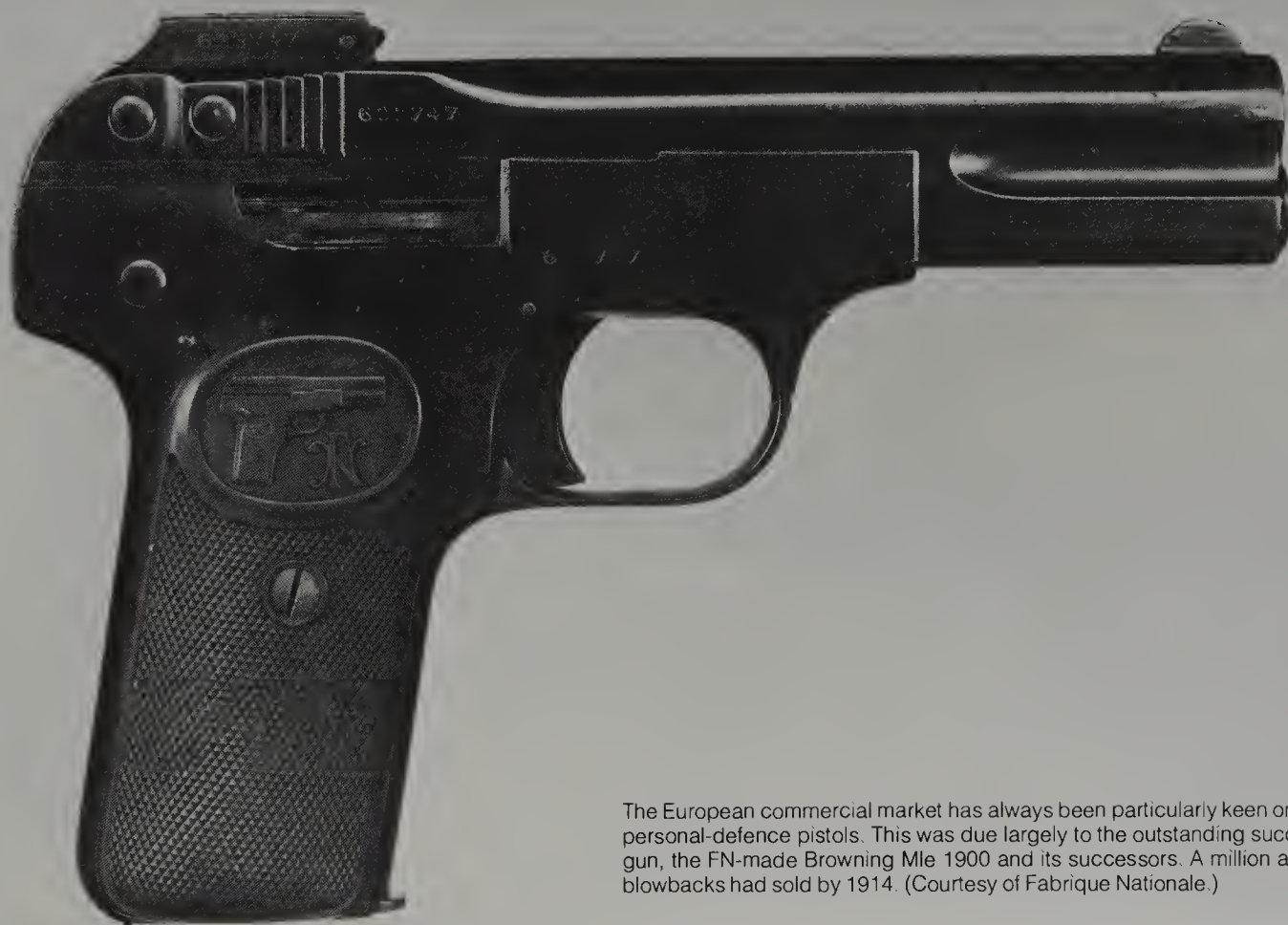
During this period, few restrictions were placed on the



The Borchardt (see page 11) led to the Borchardt-Luger pistol, better known as the 'Parabellum' or the 'Luger'. The gun shown here is an example of the Old Model, adopted by the Swiss army in 1900. (Courtesy of John Walter.)



Hard on the heels of the Borchardt-Luger came the first simple and sturdy locked-breech Colt-Brownings, beginning with the .38 Model 1900 shown here.



The European commercial market has always been particularly keen on blowback personal-defence pistols. This was due largely to the outstanding success of this gun, the FN-made Browning Mle 1900 and its successors. A million assorted FN blowbacks had sold by 1914. (Courtesy of Fabrique Nationale.)

purchase, wear and use of firearms. The police, whether uniformed or plain-clothed, were universally armed (except in Britain). However, as most of the Continental European population could also be armed when necessary, the law-enforcement agencies had no monopoly on firearms; additionally, 'street shooting' was not considered a primary police role, as each citizen was allowed to defend not only himself but other people when the need arose. As time passed, this concept was being challenged by nationalists, anarchists and revolutionaries, whose successes included the assassination of the Archduke Franz Ferdinand at Sarajevo in 1914, precipitating the First World War, and the murder of the King of Yugoslavia in Paris in 1934. The exploits of these forerunners of modern urban guerrillas even caused the formation of what would now be called counter-terrorist units in France and other European countries. Yet the handgun still remained a very close combat weapon with no specialist training other than wholly inappropriate long-range military style practice: most of the contemporary reports indicate that the ratio of hits to shots

fired was very poor indeed, due not to the inaccuracy of the guns but simply to the lack of 'combat training'.

Gradually, increasing political instability caused the steady restriction of guns to 'acceptable' agencies; for example, the British Firearms Act of 1920 began a cycle of legislation that not only finally curtailed the private ownership of handguns but also destroyed the British handgun-making industry. Even in the Germany of the Third Reich, a national law passed in 1938 successfully removed firearms from the hands of many private individuals. The German occupation of large tracts of Europe deprived the indigenous population of guns, the cumulative effect of such acts being, in the final analysis, to ensure that handguns are less common in the modern Europe than they were seventy years ago.

Colt's .34 Government Model (.45 Automatic Pistol, Model of 1911) was a simplification of the earlier 'parallel motion' guns of 1900-7, using a single link to unlock the tipping barrel from the breech.





Shortly after the adoption of the Colt automatic, these US Army men proudly display their new issue sidearm. (US National Archives, photograph 165-CB-3216.)

V. The USA scene, 1918-41

Among the early US automatics were the Savages, a .32 version of which was developed after a .45 gun had been submitted (unsuccessfully, as it turned out) to the US Army pistol trials of 1906-7. Smith & Wesson's .35 gun appeared in 1913, but the company soon discovered that the odd chambering adversely affected sales and a .32 version was substituted in 1924. A few years earlier, the best US-made pocket pistol of the early twentieth century – the Pedersen designed Model 51 – had been marketed by Remington in .32 and .380 ACP. Unfortunately, the Model 51 was comparatively expensive, and its promising career was cut short by the Depression; by 1934, sales had been discontinued.

Despite the development of the automatic pistol, revolvers remained the principal American combat handgun during the inter-war period. One of the first classic designs, the S&W Hand Ejector Military & Police, appeared in 1899 and is still in production as the Model 10 (see directory section). Another important early Smith & Wesson was the .44 Hand Ejector of 1908. This was the precursor of all the later large-frame S&W magnums, including the Models 25, 26, 27, 28, 29 and 57. During the 1930s, Smith & Wesson continued to develop their revolver line with the .38/44 Heavy Duty (1930), which was followed in 1935 by the legendary .357 Magnum.

In 1927, Colt had begun to tap a large market among police and civilians for .38 Special revolvers expressly designed for concealment. The resulting Detective Special was the classic 'snub' of the next three decades of cinema films. Though the short-barrelled Smith & Wesson Military & Police revolver had been available for some years, the first true S&W 'snub' was the Chief's Special of 1950.

By the time of the US entry into the Second World War, at the end of 1941, only the commercial variants of the .45 Colt Government Model and the Colt-Browning pocket pistols had made much of a dent in the supremacy of the excellent Colt and S&W revolvers.



The 1910-model FN-Browning blowback was another of the popular European personal-defence guns. (Courtesy of Fabrique Nationale.)



The Smith & Wesson N-Frame .44 Special revolver was a predecessor of the .44 Magnum, and an effective combat handgun in its own right.

Smith & Wesson's .38/44 'Outdoorsman', introduced in 1931, was the immediate precursor of the .357 Magnum.





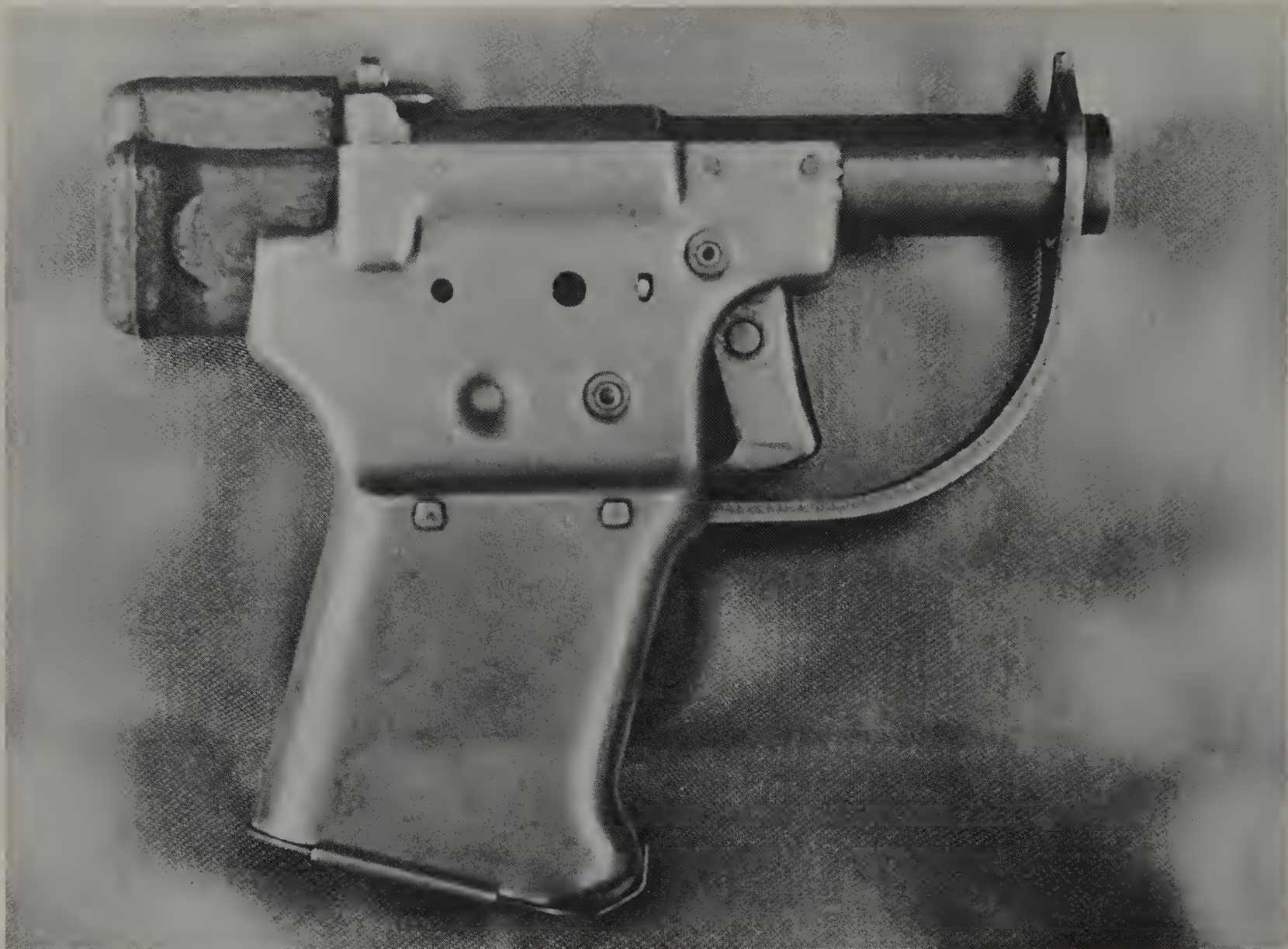
Shortly before his untimely death in 1926, John Browning developed a new locked-breech pistol based on the Colt Government Model, but with a cam-finger unlocking system and a large-capacity magazine. The design was finished by Browning's Belgian pupil, Saive, and marketed as the 'Pistolet à Grande Puissance' (High Power). The gun shown here is a modern military pattern, with an optimistically-graduated tangent-leaf back sight. (Courtesy of Fabrique Nationale.)



Colt's popular .38 special Official Police revolver is shown here with the parkerized finish applied during the Second World War.



The Walther P.38, adopted by the German army in 1940, is one of the better natural pointers among automatic pistols, balancing quite well for instinctive fire.



VI. The modern era

The aftermath of the Second World War prevented many European handgun manufacturers recommencing production, particularly as those in Germany were banned from making warlike goods. However, as the Allies were contemplating wholesale rearmament, Fabrique Nationale was able to establish a near monopoly by supplying the excellent FN-Browning Pistolet à Grande Puissance ('High-Power') worldwide. To date, the gun has sold to the military or police forces in nearly seventy countries. Beretta began production of locked-breech pistols in the early 1950s, simply by adapting the efficient Walther P.38 breech-lock – though without the pioneering double-action trigger system of the German prototype. By the late 1950s, however, Walther had recommenced production of the P.38 and the stage was set for the renaissance of the Germano-Swiss handgun industry: the products of Walther and Heckler & Koch in Germany, together with SIG in Switzerland, are now widely seen. And, despite the attempts by Manurhin and others to establish a recognizably European revolver, the automatic pistol remains the favoured combat handgun

One of the cheapest of all American combat handguns was this .45-calibre single shot 'Liberator', produced for the OSS at a cost of \$1.71.

outside the USA. In addition to the powerful military-style guns, which are not always acceptable for personal defence, a large number of smaller guns are available. Among the best of these are the compact 9mm Parabellum types, such as the Heckler & Koch PSP (P7) and 7.65mm and 9mm Auto (.32 and .380 ACP) blowbacks such as the FN Model 140 DA and the essentially similar Berettas.

The 1950s proved an especially fruitful decade for US combat handguns. The government was searching for a replacement for the venerable Colt Government Model, whereupon both the Colt Commander and the Smith & Wesson Model 39 were developed for consideration. Both have since received wide combat acceptance, with the Model 39, particularly, helping to drive a small wedge into the traditionally revolver-dominated US police market. 1955 brought the introduction of two classic fighting revolvers; Smith & Wesson announced the .357 K-Frame Combat Magnum in response to pleas from Bill Jordan and other police officers for a more portable .357, and Colt

countered with its classic Python to make it a truly vintage year for such powerful designs. A year later, Smith & Wesson produced the ultra-powerful .44 Magnum for those wanting ultimate knock-down capabilities.

It took Clint Eastwood, however, to popularize the Model 29 as a fighting revolver. Another important S&W innovation was the use of stainless steel for the Model 60 (1965). Many who carry a handgun constantly in an open holster, or close to the body in a humid climate, have learned to appreciate the importance of stainless steel in a duty gun.

During the period 1965-75, the growth of American interest in the automatic pistol as a combat weapon was stimulated by the late George Nonté's advocacy of the Smith & Wesson Model 39 and Jeff Cooper championing Colt's Government Model and Commander. The concurrent development of effective handgun ammunition such as Super-Vel, which will expand at the comparatively low handgun velocities, enhanced the combat efficiency of automatic and revolver alike. Policemen and civilian enthusiasts started buying automatic pistols in greater numbers, while International Practical Shooting Confederation (IPSC) competitions efficiently polished shooting techniques. The latest US JSSAP military trials to select a 9mm Parabellum gun to replace the ageing Colt Government Model have added impetus to the distribution of autoloaders.

As a direct result of increased law enforcement interest, in 1971, Smith & Wesson introduced the large-capacity variant of the original Model 39 known as the Model 59 –

though a secret silenced predecessor of this gun had been developed some years earlier for the US Navy SEAL teams.

The trend of law enforcement agencies and military units adopting innovative autoloading pistols has continued throughout the last two decades. The US armed forces replaced the Colt .45 auto with the 9mm Beretta, while specialized US military units have adopted the Glock .45 auto and the SIG P-228 compact 9mm. Among US law enforcement agencies, the 3rd generation Smith & Wesson autos, the SIG-Sauer series, the Glocks, the Beretta, and the H&K P7 series have all attracted interest. Colt and Ruger have also introduced large capacity automatics to compete for the civilian and police market. Even Browning/FN, despite the continued popularity of the P-35 Hi-Power, has introduced a new double-action auto. The FBI, normally a trend setter in US law enforcement, has been flirting with adoption of an autoloader since the Miami shootout. The 10mm Smith & Wesson was originally developed for the FBI, though at the time of writing, this pistol has been recalled and has been replaced by Sig P-226 autos. Although the 10mm has some advocates, it is the .40 S&W that has taken the combat pistol world by storm, offering a more powerful round than the 9mm Parabellum, yet remaining compact enough to be chambered in 9mm-sized autos.

USAF pilots during the Korean War period (1950-3) wore combat handguns for protection should they be downed behind enemy lines. Note the revolver worn by the man second from the right.

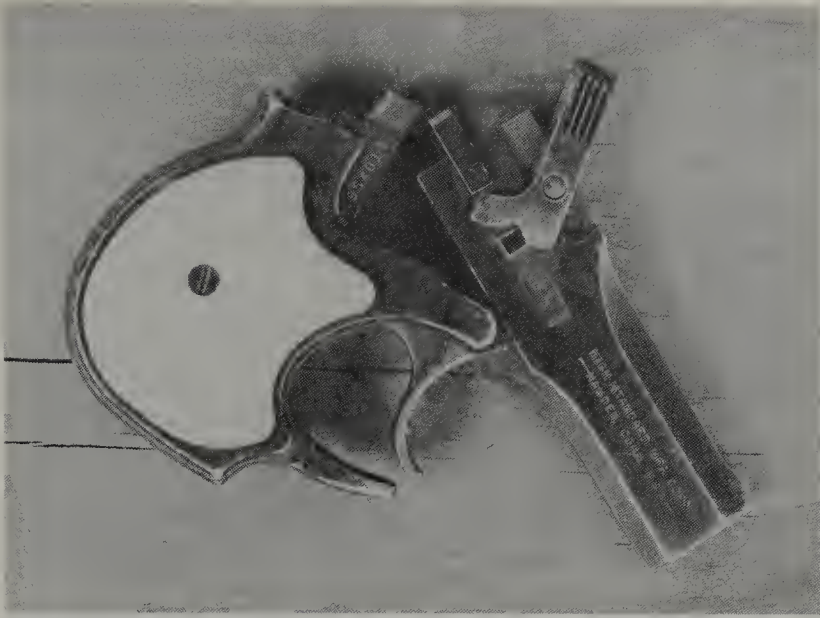




The special combat revolvers developed for the USAF included these alloy-framed Smith & Wesson (left) and Colt (right) 'Aircrewman' guns.

Two US Army military policemen and a local sheriff display the traditional US military and police handguns: the .45 Government Model Colt-Browning and a .38 Special Smith & Wesson revolver.





The Hi-Standard .22-calibre over-and-under derringer achieved popularity as a police 'back-up' gun during the 1960s and 1970s.



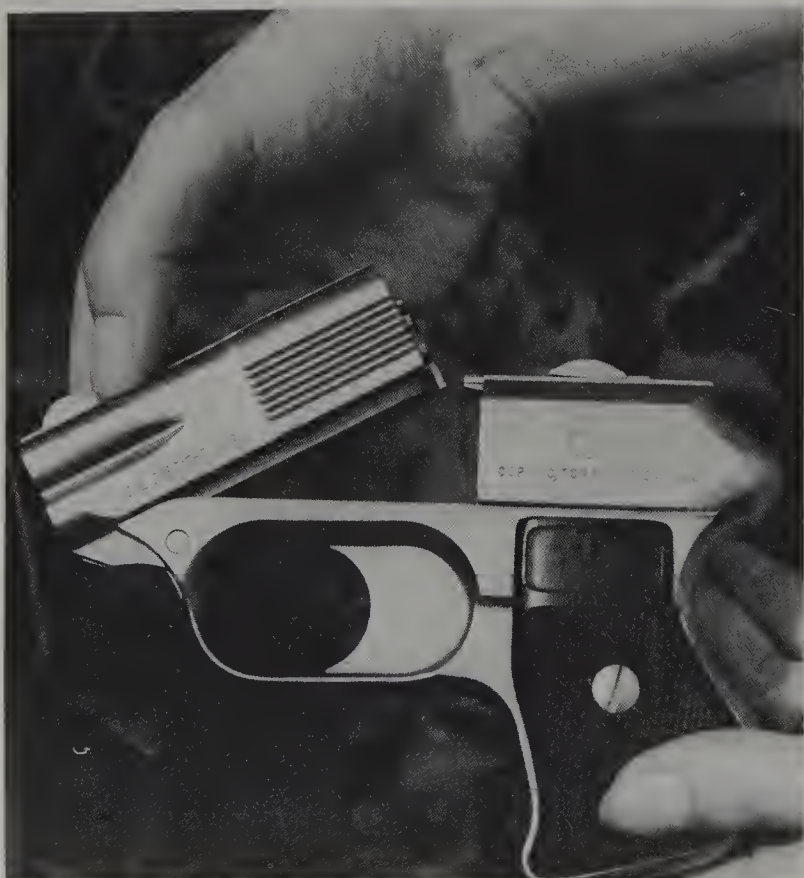
A Colt 'snub' revolver, with the trigger guard cut away and the hammer bobbed for combat use. (Courtesy of Bob Arganbright.)

The small size of the obsolescent Smith & Wesson Model 61 pistol is evident when compared with the 1½in-diameter medallion.



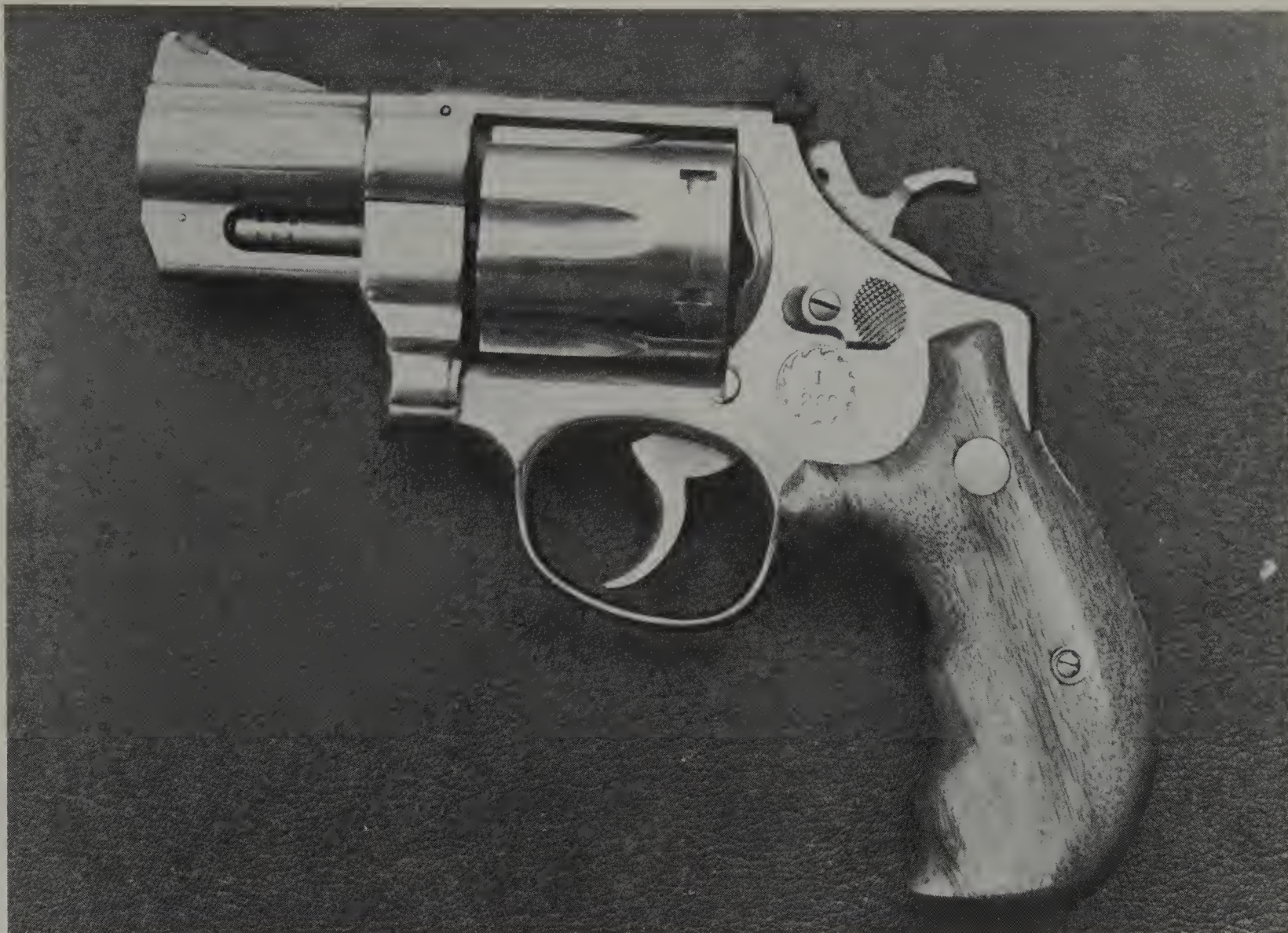


Although the powerful .44 Auto Mag was never intended as a combat handgun, it sprang to public attention in the recent 'Dirty Harry' film *Sudden Impact*.



The trend towards compact, yet powerful pistols has continued as well: Smith & Wesson has introduced their 3913, Glock their 19 and 23, and SIG their P-228 and 229. Chambered for the 9mm or .40 round, these compact autos are highly concealable. Glock has an even more compact 9mm in the works, reportedly one that will be the size of the Walther PPK. Another trend, as many police agencies that had formerly used revolvers have switched to autoloaders, has been towards double-action only or self-cocking automatic pistols. These weapons require a long trigger pull, much like the double-action revolver, and thus offer the additional safety factor. Even hideout pistols such as the Seecamp or the AMT Backup now use the DA only mode for both safety and speed of action.

A recent, short-lived American 'back-up' gun was this COP .357 Magnum.



A very good example of European customizing: a Smith & Wesson Model 629 'De Kasse-Armabel Killer Stopper' with a shortened 2in barrel and new grips.

Led by Glock, Colt and other manufacturers have begun using modern polymer technology to offer lightweight and durable frames for combat autoloaders. The combination of lightweight alloys and polymers should offer additional advances in weight and size saving among combat pistols. With the implosion of the former Soviet Union and the fall of Communist regimes in other eastern European countries, the Makarov, CZ-75, Cz-83, PA-63, and other arms developed during the Cold War will be more widely available on the commercial market, especially in the USA where these pistols were rarely seen before. At present an interesting Soviet design, the ultra-thin PSM in a unique 5.45mm chambering, remains a rarely encountered pistol, but one that would be of interest due to its concealability.



A gun has no value in combat if it cannot be controlled; here, Leroy Thompson stops the Detonics Mark VII at the peak of its recoil arc, ready for a quick recovery and a second shot.

Combat handgun shooting

I. Military progress

Until comparatively recently, with the notable exception of the specialized counter-terrorists units, few military authorities considered the handgun particularly combat-worthy. To most, it has become a symbol of authority for officers and senior NCOs or a confidence-boosting 'last resort'.

The handgun is not really indispensable for military purposes, as few situations arise where the handgun could effectively substitute for an assault rifle, a combat shotgun or submachine-guns such as the Uzi, the Mini-Uzi, the Sterling, the Ingram, the Heckler & Koch MP5 or the Beretta M12S. However, even armies such as Finland, where the handgun was rejected totally in the 1970s, have recently purchased 9mm automatic pistols. Until recently, few attempts were made to study, develop and teach military handgun shooting owing to uncertainty about the handgun's combat efficacy. The exceptions have concerned small specially-trained groups detached for particular purposes, formed from specialists who are neither bound by traditional engagement rules nor restricted to conventional training. For the remainder, the training is archaic; though it may lead to marksmanship badges and sharpshooters' qualifications, these are almost always obtained from generously-timed and unrealistically static shooting.

Until recently, the choice of a military pistol was governed by convention. The abandonment of the revolver in European armies (generally in the period 1900-35, though the laggardly British retained the Webley until 1957) was accompanied by widespread, largely unfounded fears about the safety of the automatics. Consequently, excepting the Walther P.38, the classic military pistols have all been single action, regulations forbidding them to be carried cocked-and-locked ('Condition One' carry). Chambers should be empty and the hammer down, requiring the slide to be retracted, using both hands, before the gun can fire. The ultimate expression of this is seen in the Russian Tokarev, adopted by most Eastern European countries prior to the introduction of the Makarov, which has no manual safety at all; the choice is simply to carry the gun with an empty chamber, or to lower the hammer to its 'safe' half-cock position and risk carrying the gun loaded.

The attitude of military authorities has often been that the handgun is as dangerous to the firer as the intended target, and that every precaution should be taken to prevent accidental discharge. Clues to this are provided by the proliferation of superfluous magazine safeties, excessively heavy trigger pulls and (in most cases) poor sights. For

example, the trigger pulls of the single action FN-Browning High-Power pistols delivered to the Belgian army must be at least 3.5kg, ever since an official board of inquiry ruled that a training accident was partly due to too light a trigger. One can only wonder at the wisdom of handicapping the High-Power, until recently the best all-round military/police/defence handgun, with an unnecessarily heavy trigger and additional 'magazine security'.

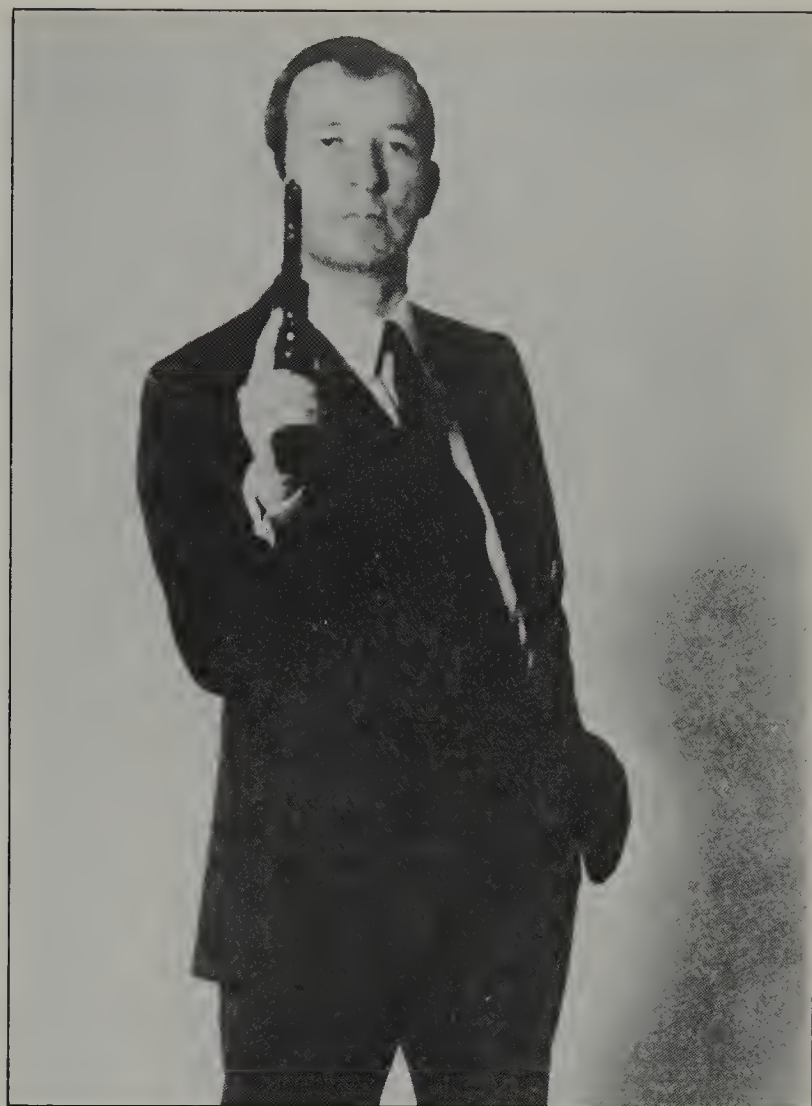
The High-Power magazine safety was considered a sales-worthy innovation by its designers, preventing the release of the hammer when the magazine was removed, but clearly demonstrates lack of faith in the firers. Obviously, it was deemed far too dangerous for the average soldier or civilian to remove the magazine and thus gain the impression that his gun was unloaded even though a round could still be chambered. However much the trained combat shooter may curse the magazine-safety concept, which can immobilize the gun unless reloading is undertaken before the last round is fired, many military personnel (and even some policemen) receive guns simply because of their official status – yet would pass few practical pistol courses without extensive training, and cannot be relied upon to 'unload and show clear' by removing the magazine and manipulating the slide.

Specialized military units such as the British SAS, West German GSG-9 (actually part of the Bundesgrenzschutz, the border guards), French GIGN and Belgian ESI act as the equivalent of the US SWAT police teams – unknown in Europe, apart from a few German cities – and are among the best-trained in the use of differing weapons, including handguns. None the less, owing to their military status, they are still widely restricted to 'issue' equipment: for example, members of GIGN are issued with the MR 73 revolver. Though the Manurhin is excellent, its limited cylinder capacity is a great disadvantage against some of the current automatics, which can fire, in the case of the Steyr GB-80, three times as many shots without reloading. This can easily put the revolver-firer at risk in prolonged combat, as even the best revolver speedloaders are less efficient than replacing a box magazine.

The American JSSAP has undoubtedly played a major role in shaping the current generation of automatic pistols, particularly in Europe where most of them are made. It is less well known that the Europeans began the cycle with two such programmes; in 1975, for example, following the disaster at the 1972 Munich Olympic Games, an effort was made to reform the German state police forces and standardize 9mm Parabellum ammunition. Oddly, each of the three competing designs – the Walther P5, SIG P225 (P6) and the Heckler & Koch PSP (P7) – was adopted, as all three had proved sufficiently effectual. Apart from large-capacity magazines, the West German specifications all but predicted those of the JSSAP. Guns such as the Beretta 92SB, FN-Browning BDA, Star 30M, Llama Omni, Steyr GB-80 and Glock 17 all draw heavily on the lessons of the German police and JSSAP trials.



This picture, taken from a 1930s-vintage training manual, emphasizes the static military shooting style that has persisted to the present day.



Raymond Sasia, a Controller-General of the French national police and instigator of the FBI-inspired 'Sasia Method' of revolver shooting.

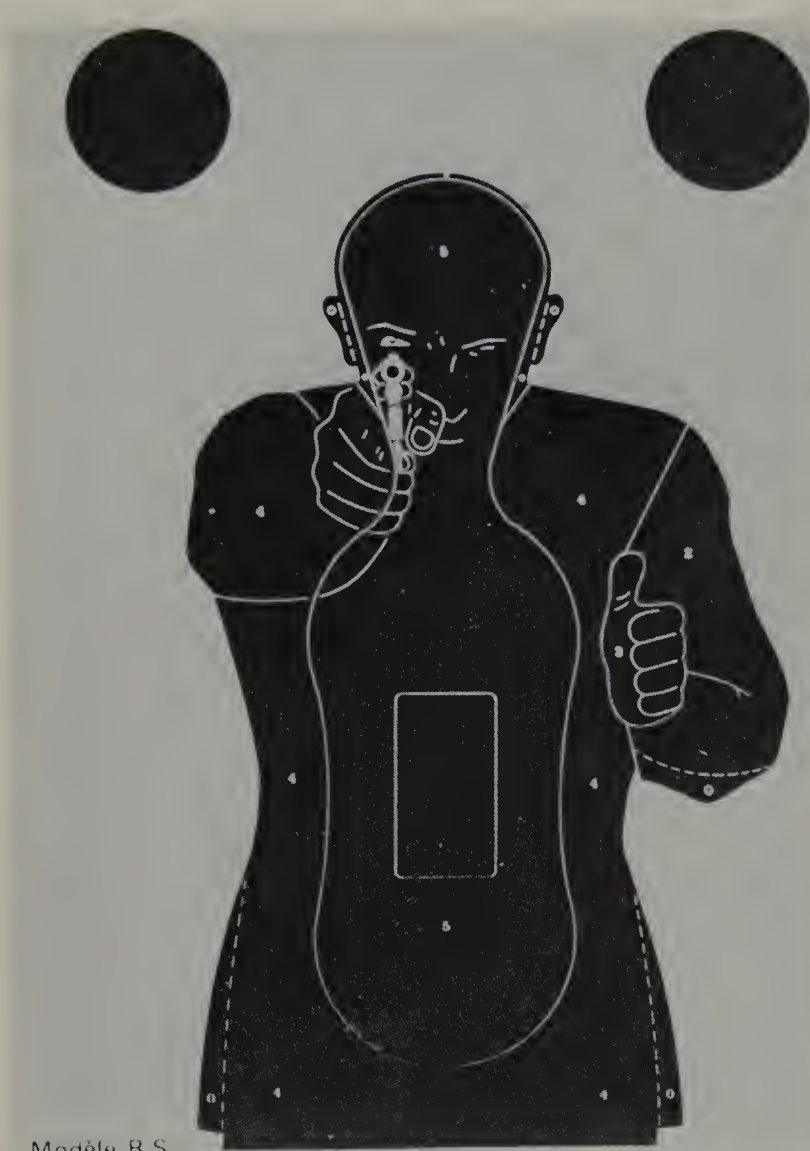
II. The police

The police use of handguns is controversial, and often ineffectual. Incidents in Europe have shown this clearly as when, for example, two out of four plain-clothes men were killed and a third injured by the handful of gunmen they intercepted when on patrol; when four experienced policemen fired fifteen rounds from a distance of two metres at an aggressor passing a doorway, without a hit; when a uniformed policeman attempting to stop a robbery was killed largely because his High-Power pistol contained only three rounds and had no spare loaded magazines; or when elite police 'marksmen' stopped a car in a crowded street and fired a dozen shots at close range without killing the presumed target (fortuitously, as it was the wrong man).

There are countless successes to balance against these few tragedies, but it is clear that the average policeman is far from expert in a combat situation. His guns, ammunition, holsters and ancillary equipment are often completely inadequate. Even in 1986, many policemen, security guards and others whose lives may depend on their guns still carry ineffectual 7.65 and 9mm Auto-calibre pistols, or .38 Spe-

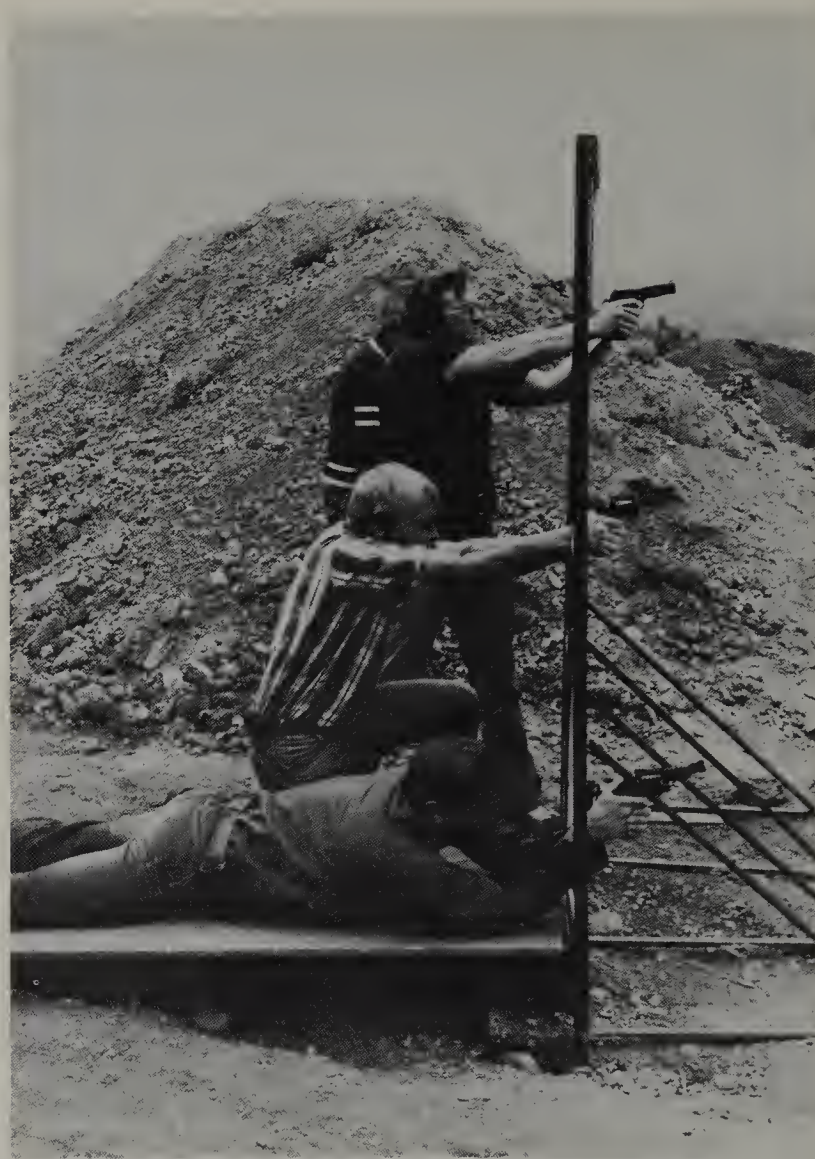
cial revolvers loaded with cheap, under-powered cartridges. In 1983, according to a professional policeman, the French national force officially used 28 different handguns in eight calibres. For a long time, too, many US police forces were satisfied with the notoriously weak .32 revolver cartridges, none of which had much stopping power. To economise, weak .38 Special often serves as 'training' for the powerful .357 Magnum . . . with potentially unfortunate results when accuracy matters most and the additional recoil of the service round proves too hot to handle..

Prior to 1960, when crime and street-violence were still relatively minor, European police forces had no consistent shooting doctrine. In the USA, training was undertaken more professionally, under the guidance of experienced combat-shooting names such as Askins, Applegate, Keith, Weaver and Jordan, together with the influence of legendary performers such as Ed McGivern (whose close range simultaneous two-hand rapid-fire records stood until comparatively recently). European training was restricted to static scenarios, with conventional (but unrealistic) paper targets, miserly issue of ammunition and commensurately minimal mandatory shooting qualification requirements.



Modèle R.S.

The 'Sasia Target', based on an FBI prototype. Only a single target is used in the fifty-round 'Police Course', which is always fired in the same order, from the same positions and at the same distances.



René Smeets (standing) participates in a realistic police contest based on the Sasia Method in 1982. In this competition, revolvers and automatic pistols alike are loaded with five rounds, all spare ammunition being carried in the pocket. Neither speedloaders nor spare magazines are allowed.

Though outstanding marksmen did emerge from this system, they were few and far between.

Traditionally, street patrol was undertaken by cool, experienced uniformed policemen, usually respected by the population, while more complex problems were entrusted to plain-clothes men relying more on brains than brawn. During the 1960s, however, the old order changed perceptibly. Problems were evident in many European countries, none more so than in the France of Charles de Gaulle. De Gaulle, acting against the counsel of many advisers and the wishes of many French émigrés, granted independence to Algeria in 1960 after a bloody struggle against nationalist guerrillas. The grant of independence precipitated riots, even mutiny among some élite French army units, and a secret terrorist group calling itself the OAS was created in France. The ultimate target was de Gaulle himself, as depicted so graphically in Frederick Forsyth's book *The Day of the Jackal*.

Against this backcloth, Raymond Sasia, a noted French

judo and self-defence instructor, was given the task of protecting the President as head of the special security group responsible for the head of state. Sasia determined to re-organise the shooting training of the entire French police, visiting the FBI Academy in Quantico in 1961 to assimilate the then-current revolver orientated methods that culminated in the famous 'Hogan's Alley' training course.

Back in France, Sasia opted for the revolver, eventually asking Smith & Wesson to make the special 'S&W 19/3 RS' ('Raymond Sasia') with a 3in barrel, fixed sights and narrow grips. He then created a complete method, which he called 'Le Tir Rapide', based around a fast draw from the back of the hip and instinctive one-handed rapid fire at close range. Two-hand stance was permitted for medium and long-range shooting, but the gun was carried with the chamber empty and the hammer down. The 'bowling draw' was to be accompanied by simultaneously retracting the slide, were the revolver to be substituted by an automatic pistol.

Sasia also adapted the typical FBI-style silhouette target,

a stiff and unnatural pose scoring 1-5, the bottle-shaped '5' (or 'bowling pin') being the 'stopping zone' and a central 'playing card' being the 'kill-zone'. Sasia also adapted the FBI practical pistol course for his own purposes, requiring the trainee to fire 50 rounds in about five minutes, beginning with an empty gun and having to load and reload systematically at each stage. The course was always performed in the same order, with the same positions and the same distances – better than nothing, but by no means ideal. Finally, Sasia created the police shooting school (the Centre National de Tir) to train instructors in the 'Sasia Method'. Almost every country sent selected personnel to CNT sessions. The essentials of the Sasia Method were incorporated in the German PDV 211 system, development of which began soon after 1972.

American influence was evident even in these early European efforts. Among the US masters, Jeff Cooper, the promoter of the Bren Ten, was to play a major role. Beginning in the 1950s, he had established his own combat-training method, based on the effectiveness of a simple fast draw with the upper part of the body remaining very straight, adapting the well-known body position and two-hand grip of the 'Weaver Stance'. Despite publishing the *Complete Book of Modern Handgunning* in the early 1960s, Cooper is not a man to rest on his laurels and has constantly striven to refine his techniques.

Many people interested in combat handgunning – on personal or professional bases – have contributed to the perfection of techniques, assisted (particularly in Europe) by the growth of specialist magazines devoted to handgun shooting rather than more traditional historical studies. During the past few years, a very few books have appeared on the subject; however, not all of their recommendations are realistic, and a few are downright dangerous.

In the period 1965-75, the Europeans began to appreciate the advanced US handgunning techniques, and began to experiment with revolvers, .22 rimfire pistols, tied-down Western-style holsters, the Sasia Method and improvised targets – only to discover that no European manufacturer made the slide- or speed-holsters they sought, all of which had to be imported from the USA. During the 1970s, Jeff Cooper came to Europe, organized some seminars, met police authorities and civilian enthusiasts, and explained his 'new pistol' project to potential manufacturers. Though he gained the firm impression that no-one understood the purpose of the design that was to become the Bren Ten, and though few of the police authorities were forward-looking enough to grasp the merits of his method, Jeff Cooper had convinced many of the civilian enthusiasts of his goals.

The German Siegfried Hubner forged his own policy, organizing courses and seminars, writing books, and training some of the German police units with other instructors such as Max Wiegand.

The Belgian Roger Swaelens followed Cooper's path, being the only European (and one of few non-Americans) to



Jeff Cooper, pictured during a seminar in Belgium; August 1982.

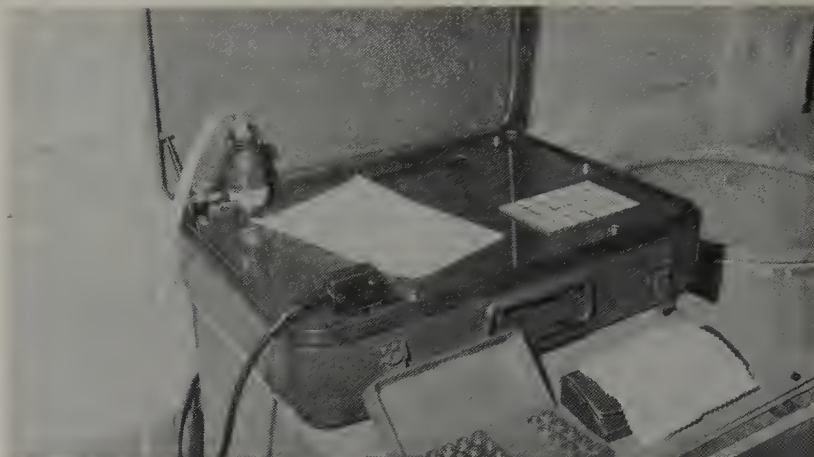
be recognized as an instructor by the master himself. After acquiring a reputation as a fantastic teacher, Swaelens and some friends formed one of the few private European academies specifically devoted to training law enforcement personnel. Dramas like the Munich Olympic Games massacre, the kidnapping and murder of important people like Aldo Moro or Martin Schleyer, the Patty Hearst affair, assassination attempts on President Reagan and the Pope, machine-gunning synagogues, attacks on airline offices and widespread hijacking have accelerated the development of police equipment and training methods more quickly than 25 years of conventional street-crime.

During the 1980s, however, the outlook has changed. For example, many new types of target have been developed, and several companies have created moving-target systems. These range from inexpensive computer-based units capable of programming control of movement, delay and obscuration of up to ten targets, to the most super-sophisticated system imaginable. Currently, the Riyadh range is probably the most complete police and counter-terrorism range in the world, where targets may move in any direction

or under the influence of sensors activated by the firer. There are also complete vehicle courses, multiple video systems and 'fun houses'.

Obviously, most authorities cannot afford such luxuries, particularly where ranges must be shared with target shooters from varying disciplines. However, judicious use of cheap material enables even these facilities to be transformed for realistic police shooting, using Olympic rapid-fire targets as moving ones, or metal 'Pepper Poppers' to demonstrate the need to place shots accurately to get the best from stopping power.

More and more contests are testing the growing skill of the practical handgunner, some events rapidly attaining an international reputation. Last, but not least, the incredible diversity of new guns — and the replacement of many old 7.65mm Auto guns with others in 9mm Parabellum or .357 Magnum — has greatly increased interest among law-enforcement agencies.



This small computer 'brain' controls the movement of five 4-position targets, plus five additional 'pop-up' patterns. The increasing popularity of these comparatively inexpensive systems has revolutionized combat shooting training, enabling techniques to be refined appreciably.

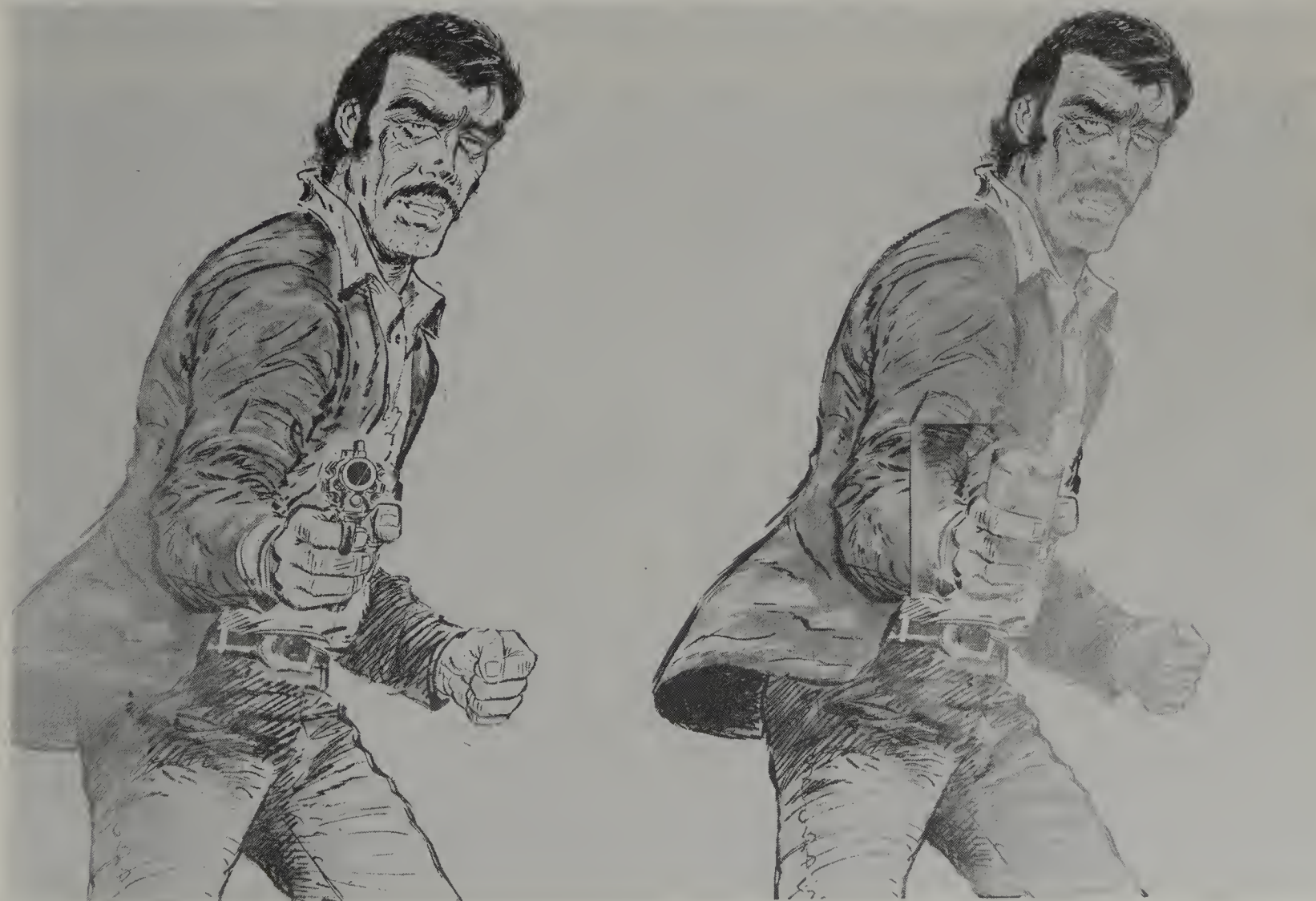
Roger Swaelens (left) instructing members of a municipal SWAT team in the use of riot-guns and pistols.

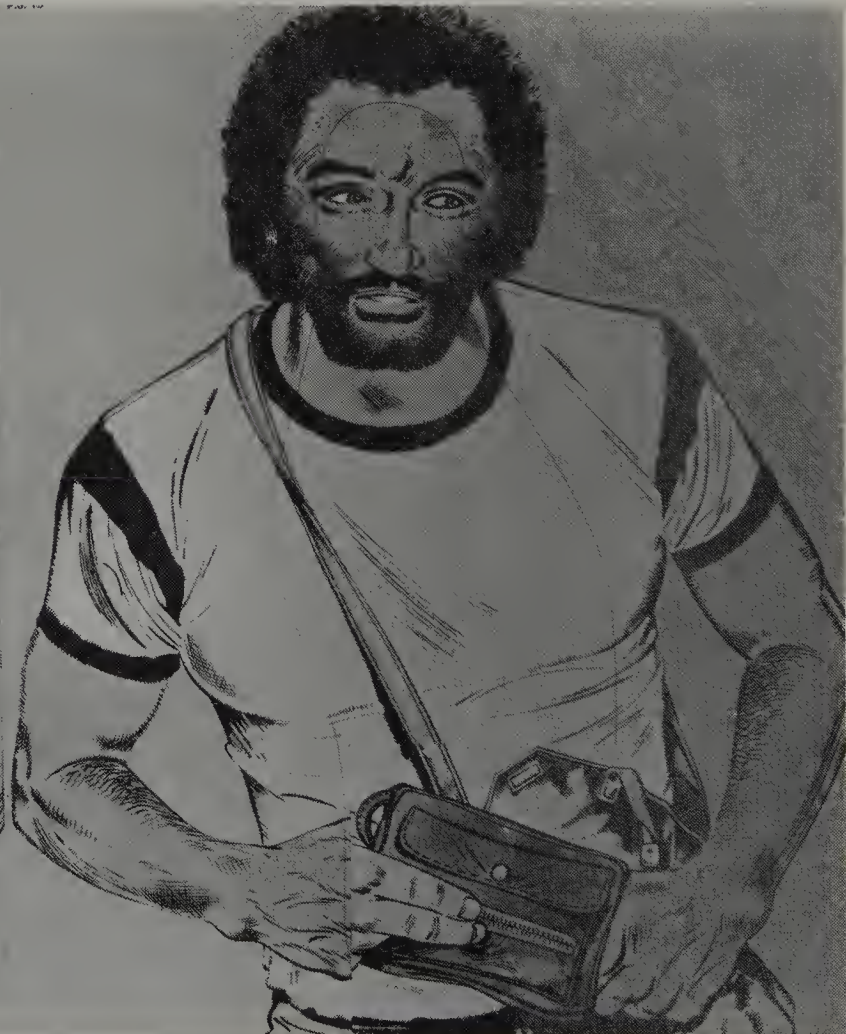




Police are now making their training increasingly realistic. Here, a policeman practices shooting from a type of Volkswagen popular throughout Europe.

In a search for realistic targets, leading cartoonists were asked to collaborate.







Realistic training demands an appropriate setting – such as this bullet-riddled Peugeot, accompanied by Sasia Targets ... and a distinctive white 'hostage' shot only at the firer's peril!

The .41 Magnum has great advantages in stopping vehicles. Even practised shooters do not always realize that a powerful gun is needed to penetrate a windscreen from any angle.

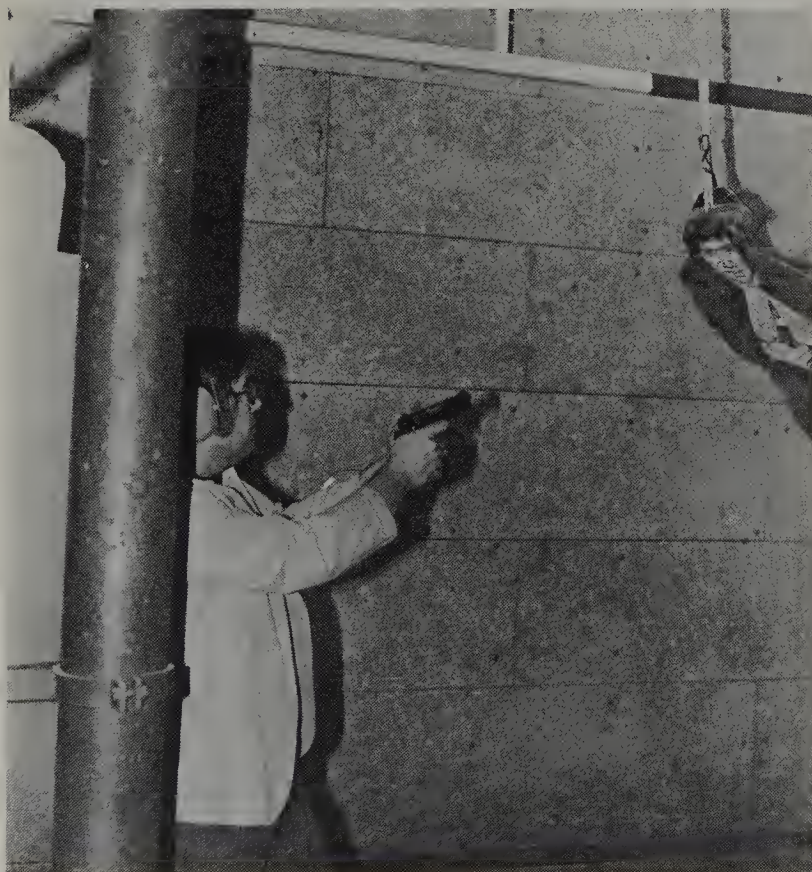




The results of training. Two people, author Smeets with a pistol and a revolver-firing police officer, achieve similar results in the 'Step Back' despite no prior acquaintanceship (though sharing instructors). When the moving targets appear, the firers must move to the rear, draw and place two shots in the K-zone within one second.

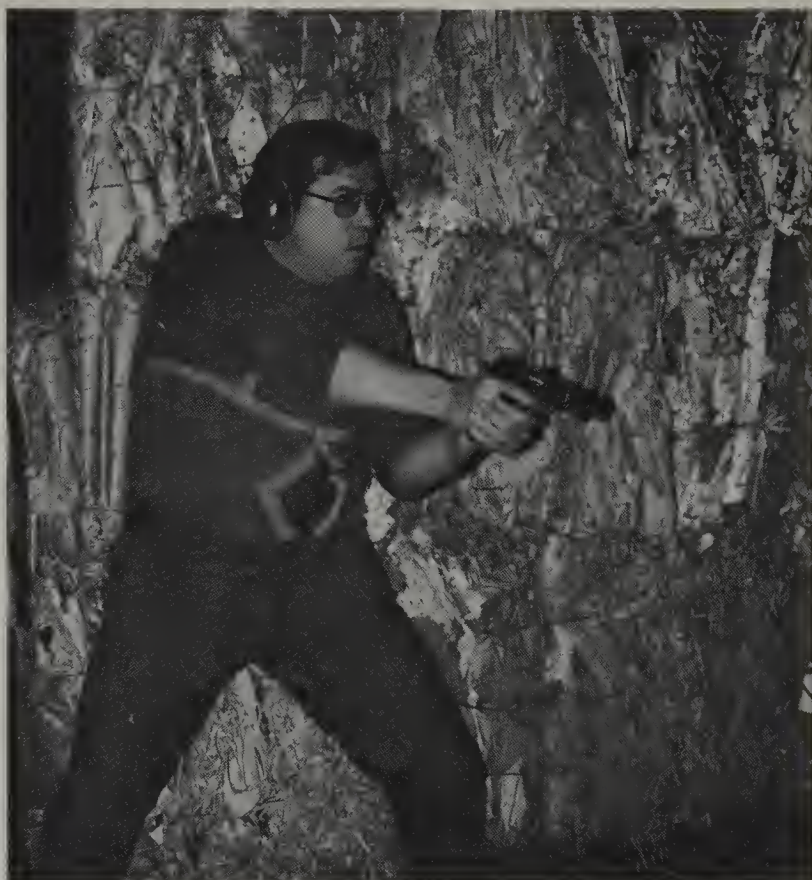
Civilian ranges can easily be adapted for police shooting. In this instance, the target-returning system is used to provide a 'moving aggressor'. The instructor controls the progress of the target, the trainee commanding the 'aggressor' to stop; if the target does not do so, the trainee must fire only at close range.

The metallic 'Pepper Popper' is a legacy of IPSC shooting. A realistic target is fixed to the Pepper Popper, which will fall only if vital zones are hit. The non-vital zones overlap the backing and bullets will simply pass through uneventfully. An 'innocent bystander' is sometimes placed close to the 'aggressor', falling if hit to dramatize the firer's error.





One of the numerous advantages of combat handgun training is the opportunity to talk with people; here, having passed a 'corner', René Smeets is ordering an innocent target to show his hands and evacuate the danger zone. The instructor follows progress intently.



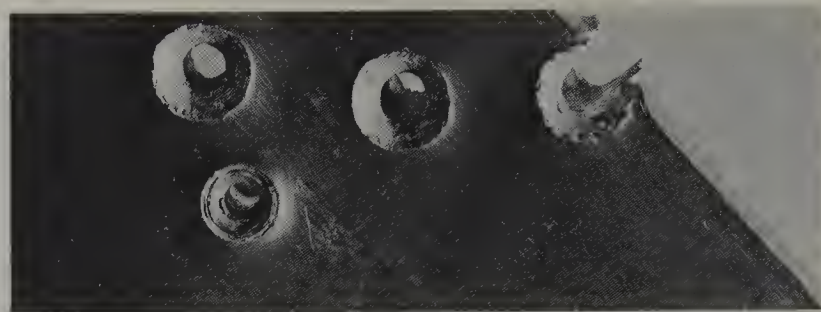
René Smeets passing a corner in a 'fun house', during a police course 'house clearance'. In this technique, the gun is pulled down immediately after the shot (or shots) to see whether the target has fallen.

Part of the vast choice of modern 9mm Parabellum ammunition.



III. Personal defence

There is little scope for the personal-defence pistol in Europe - quite unlike the United States of America - and the enthusiast almost has to teach himself. Specialized magazines are rare, and the space devoted to personal-defence guns is restricted by comparison with the combat handguns. Few suitable shooting schools can be found, though multi-European champion Bob Dunkley organizes praiseworthy courses in Britain. Siegfried Hubner offers 'Civil Combat Courses' and FN-Browning once ran a training school based on the Sasia Method. Though the FN school was advertised as 'open to the public', most of its students were members of security companies. Its ultimate failure was ascribed to the restriction of private handgun ownership in Belgium, leaving the IPSC to provide the only readily accessible personal-defence training facilities in Europe.



The effect of French SFM Alia super-perforating .357 Magnum bullets, fired at 16mm steel plate - from a 6in-barrelled revolver - at a range of 3 metres. This is outstanding penetration for handgun ammunition.

The SFM-made THV rounds, shown here in .357 Magnum, are probably the best 'man-stoppers' in the world, excepting the soft- or hollow-points. They will penetrate 5-6mm steel plate at close range (bottom). The flat-shooting ultra-light weight bullet, owing to its high velocity, tends to shoot low unless sights are adjusted. The hollowed bullet permits additional propellant to be squeezed into the cartridge.

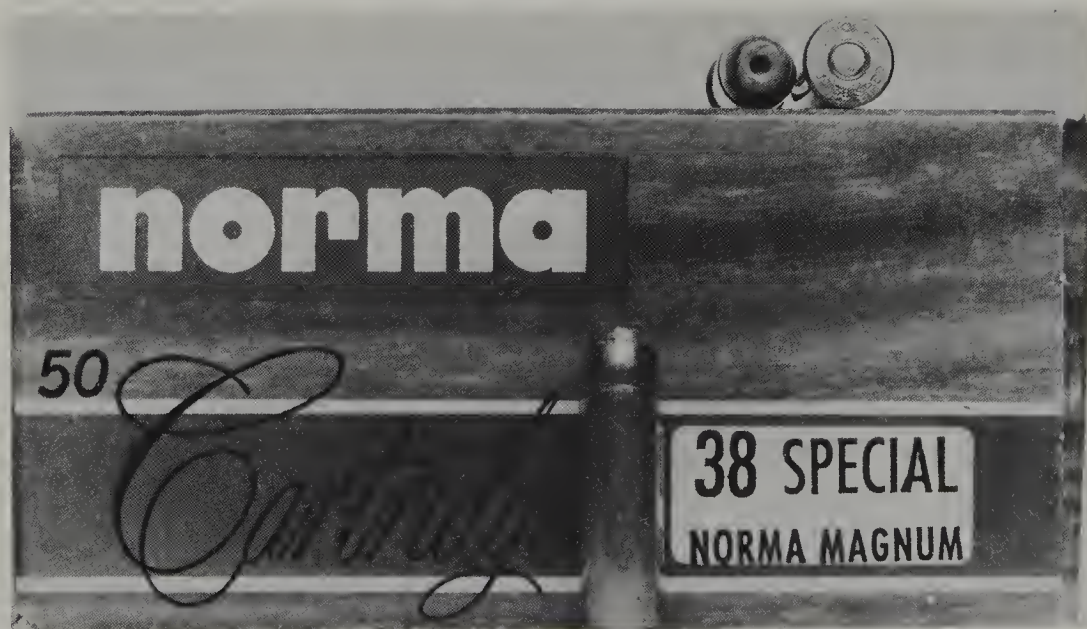




The complete series of Senix 'High-Perf' ammunition, relying on a sabot with an extra-hard sub-calibre point. From left to right: .223 and .222 Remington, .30 M1 Carbine, .357 Magnum, .38 Special, .22 Winchester Magnum Rimfire, .45 ACP, 9mm Parabellum and .22in Long Rifle Rimfire. The .22 LR was the first to be introduced. Senix ammunition combines a devastating effect on light armour with excellent stopping power.



The 9mm Parabellum Geco 'Actiongeschoss' or 'Quick Defense' (left), and the MEN 'Deformationgeschoss' (right) are specifically intended to provide a combination of good stopping power and excellent tyre-deflating capabilities. The axial tunnels through the bullets are covered by a super-light plastic point prior to firing.



The .38 Special Norma Magnum is one of the very best man-stopping cartridges. In Europe, however, many countries prohibit official issue of hollow or soft-point ammunition – largely by misinterpreting international conventions, but often disadvantaging their law-enforcement personnel compared with civilians bound by no such restrictions.

Ammunition and Carrying Methods

Combat Ammunition

It has been said by more than one expert that a pistol is not the weapon one would choose to take to a gunfight; however, it is the one most likely to be on the person when trouble arises unexpectedly. The ability of a pistol to end a gun fight quickly lies in a combination of the ammunition it uses and the placement of one's shots into an adversary. The ability of a cartridge, or to be more exact a bullet, to stop an assailant – and the ability instantly to stop an assailant from continuing the attack is more important than killing him – is a combination of various factors including the bullet's ability to penetrate to a vital organ, its disruption and destruction of tissue, and surface area and weight of the bullet. In general, for optimum performance, a combat round should offer penetration of 10–15 inches and bullet expansion to at least 175 per cent of its original diameter. Evan Marshall and Ed Sanow have done extensive research on handgun stopping power based on a combination of actual street performance of various loads and selected scientific methods of simulating the results of ammunition in actual shootings. For a more in-depth analysis of this subject readers are referred to their book, *Handgun Stopping Power: The Definitive Study*.

Choice of combat ammunition may also be influenced by one's particular circumstances. For example, someone living in an urban townhouse with neighbours all around should choose ammunition that will stop an attacker but which is not likely to penetrate walls to injure innocent neighbours. On the other hand, a DEA agent arresting a drug dealer who is known always to wear a ballistic vest would prefer a load with high penetrative ability to punch through the Kevlar. Bear in mind as well that both shot placement and the clothing being worn by an assailant can influence the effectiveness of ammunition.

Based on Evan Marshall's research, figures are available on the street effectiveness of various rounds in actual shootings. The following statistics reflect the percentage of one-shot stops by the best ammunition in each of the primary combat calibres for which sufficient shootings were available to analyze:

.32 ACP: Winchester-Western 60-grain Silvertip Hollow Point – 59%; .380 ACP: Federal 90-grain Jacketed Hollow Point – 64% (indications are that the Federal Hydra-Shok will be even more effective); .38 Special: Winchester 158-grain Lead Hollow Point – 73% (67% from 2in barrels); 9mm Parabellum: Federal 115-grain +P+ Jacketed Hollow Point – 89%; .357 Magnum: Federal 125-grain Jacketed Hollow Point – 96%; .41 Magnum: Winchester-Western

170-grain Silvertip Hollow Point – 89%; .44 Special: Federal 200-grain Lead Semi-Wadcutter Hollow Point – 72%; .44 Magnum: Winchester-Western 210-grain Silvertip Hollow Point – 88%; .45 ACP: Federal 230-grain Hydra-Shok Hollow Point – 88%; .45 Colt: Federal 225-grain Lead Semi-Wadcutter Hollow Point – 77%.

Note that the powerful .44 Magnum is not the best stopping load. Instead, the 125-grain .357 Magnum round leads by a substantial margin, while the +P+ 9mm load and the .41 Magnum Silvertip surpass the .44 Mag as well, and the .45 ACP Hydra-Shok matches it. These results may be attributable at least in part to the fact that the other cartridges are easier to control for better shot placement. Despite the old cliché, 'They all fall to hardball', about the 230-grain full metal case .45 ACP round, Marshall's statistics do not back this up as hardball's record on the street shows only 64 per cent of one-shot stops.

Although the loads listed have an excellent track record there are other reliable and deadly combat loadings available. For the .380 ACP, for example, the Winchester-Western 85-grain Silvertip Hollow Point is quite good and among special purpose ammo the MPP, a pure copper hollow point with a nylon plug for reliable feeding zips its 54-grain bullet along at 1,250 feet per second. The MPP's nylon plug is driven into the hollow cavity upon impact. Although penetration with the MPP is only about 7–8 inches in flesh, this will normally reach vital organs. One real advantage of the MPP rounds is that they will feed reliably in older .380 autos with feed ramps not designed for hollow point ammo.

There are also numerous other good loads for the 9mm Parabellum. Once again Winchester-Western's Silvertip Hollow Point has been quite popular. Federal's 115-grain Jacketed Hollow Point 9BP round which travels about 125 feet per second less than the +P+ round still has achieved one-shot stop rates of 81 per cent. Unlike the +P+, which is limited to law enforcement and military purchasers, the 9BP is available for civilian purchase, too. Federal also offers their Hydra-Shok design in various weights for the 9mm including the heavy subsonic 147-grain loading. For situations in which a heavier bullet and lower velocity are desirable such as use in urban areas, this load is quite popular. It has also been issued by the FBI. The Hydra-Shok incorporates a lead post within the hollow cavity to aid in expansion by directing pressure away from the centre of the cavity and towards the walls. Normally, a velocity of 1,000 feet per second or even more is required for reliable expansion of hollow-point bullets, but with the Hydra-Shok design copper-jacketed bullets reliably expand at 850 feet



From left to right, three types of .38 Special combat loads: the 158-grain lead semi-wadcutter hollow point; the 125-grain jacketed hollow point; and the nylon Thunder Zap designed for use when overpenetration or excessive range could be dangerous. This load is devastating at ranges of 10 metres or less, but loses velocity quickly. It was designed for special-purpose use such as during aircraft assaults.



The CCI Lawman 200-grain Jacketed Hollow Point, the famous 'Flying Ash Tray'.

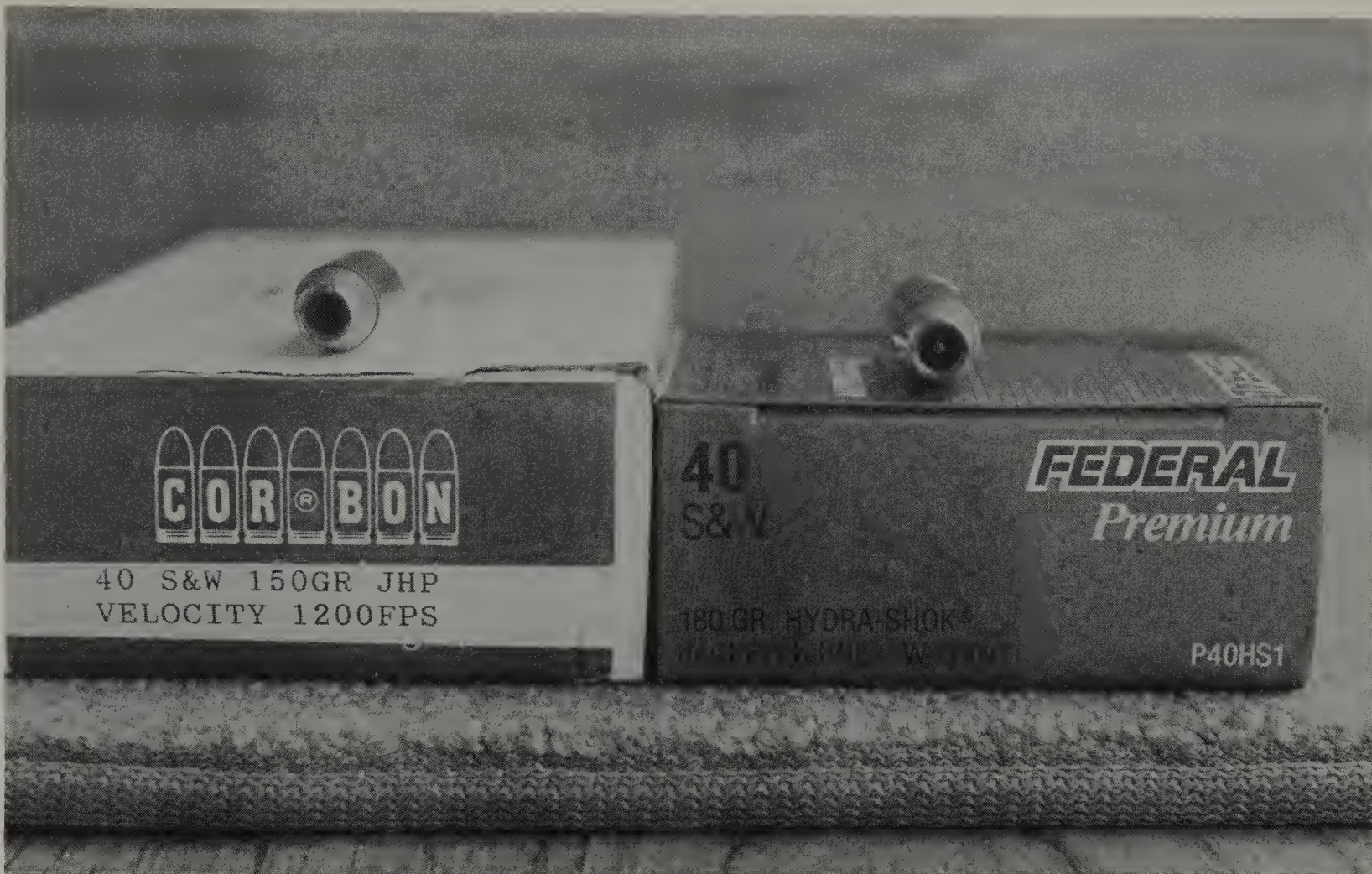


per second, while the .38 Special lead Hydra-Shok has shown reliable expansion at velocities as low as 675 feet per second from 2in barrelled snub revolvers.

Among more exotic loads for the 9mm Parabellum, one I've been especially impressed with is the 9mm Action Safety or BAT (Blitz Action Trauma) round. Designed initially for reliable feed through submachine-guns and to counter regulations against hollow-point bullets, the 9mm BAT round uses a brass bullet with a plastic nose cap which is blown out upon firing. In 9mm its 86-grain bullet develops a muzzle velocity of 1,400 feet per second. I have fired this round through various 9mm autos designed before the advent of hollow-point ammunition and have found it feeds well in all of them, though I certainly wouldn't recommend it for older guns unless they are in excellent condition and were originally designed for high-velocity ammo. Another special purpose 9mm round is the French THV which is restricted only to law enforcement and military sales in the USA. This round, available in .38 Special, .357 Magnum, 9mm, and .45 ACP, uses a brass alloy bullet of concave ogive shape (somewhat like the top level of a pagoda) at very high velocity – almost carbine level – for excellent penetration against ballistic vests, while causing more tissue disruption than most penetrative

ammo. The THV's ability to punch through Kevlar is the reason its sales are so restricted. Another advantage of the THV is that its light bullet loses velocity quickly thus reducing danger past about 100 metres.

Another popular special-purpose combat round in many calibres is the Glaser Safety Slug. Developed by Jack Canon and named for the famous Swiss gun shop, the Glaser uses a copper jacket filled with No. 12 shot and sealed with a plastic cup. The Safety Slug is designed to do tremendous tissue damage, while remaining inside the target. It normally will not ricochet or penetrate walls. As a result, it is a popular load for urban police and self-defence and has reportedly been used by many agencies, including the Special Air Service, as a load for aircraft assaults or other use within aircraft or aboard ships. It should be borne in mind, however, that where penetration is needed the Glaser does not have a good reputation. In .38 Special, the original Glaser Safety Slug used a 96-grain bullet at 1,585 feet per second from a 4in barrel. Later, this became an 80-grain bullet at 1,440 feet per second, and currently a 74-grain bullet is used. It should be noted that specialist ammo is frequently downpowered after introduction, usually because of liability fears on the part of manufacturers. I should also point out that it will normally be necessary to adjust



Left: The two most effective loads for the .45 Colt round: at left the Winchester 225-grain Silvertip Hollow Point and at right the Federal 225-grain Lead Semi-Wadcutter Hollow Point.

Above: Two excellent combat loads for the new .40 S&W cartridge: the high-velocity 150-grain Cor Bon and the 180-grain Federal Hydra-Shok.

Perhaps the most diverse selection of combat loads is available for the 9mm Parabellum round. Seen here are (left to right): full metal case with a slight flat; THV; BAT; Glaser Safety Slug; and Federal 115-grain +p+ Jacketed Hollow Point.





one's sights for the lighter, faster Glaser rounds or for other special-purpose ammo.

A variation on the Glaser Safety Slug is the Magsafe round which is similar but places the shot in a hard epoxy core and also uses larger shot. The 9mm Magsafe, for example, uses No. 7½ shot in a 64-grain bullet at 1,675 feet per second. An even hotter version is the SWAT 9mm load with a 60-grain bullet at 1,725 feet per second.

No cartridge is a guaranteed fight stopper, but certain calibres and cartridges have a far superior record to others. One can also tailor ammunition choice to one's specific needs. I have often carried one type of ammunition in my weapon while I carried an alternate designed for special needs in a spare magazine or speedloader. For example, I normally carry my Glock 19 loaded with Federal +P+ 115-grain hollow points, but I have carried two spare magazines for it – one loaded with THV rounds and another loaded with Magsafe rounds. The +P+ is a good general-purpose load which is why it's carried in the gun, but the

Magsafe gives me the option of using a non-penetrative, non-richocheting load if needed, while the THV can be loaded if I need to engage some type of 'hard target' or a bad guy wearing a vest.

All too often, an inexperienced shooter will spend a substantial sum of money on a defensive handgun, then look for the cheapest ammunition available. No handgun is magic and neither is any particular load, but ammunition choice is certainly as important as the choice of handgun for combat. Remember that the best handgun in the world is only as good as the ammunition in it.

The best combat handgun in the world is not really much use if it is not available when needed, so a proper choice of holster or other method for carrying the handgun ranks in importance with weapon and ammunition. Choice of carry method will be determined by many factors – one's reason for carrying a pistol, one's attire, and the size and type of weapon being carried. Uniformed police officers, military

personnel, game wardens, or others who carry their handgun exposed normally will have the most basic choices in methods for carrying the weapon. In general a trade-off between ease of access to the weapon and security will normally determine the choice for these individuals. The belt holster worn on the strongside will be the most popular choice. Normally, this holster will incorporate a retaining strap or a flap to keep the weapon from falling out of the holster. Certain types of police duty holster, however, use pressure/friction to hold the weapon in place so as to allow a faster draw. Usually, such holsters are favoured by officers working in higher threat environments such as inner cities. A compromise type of holster is the 'thumb break' pattern which uses a retaining strap designed to be opened by the thumb as the hand closes over the weapon for the draw. This style offers good retention yet faster access. Since many of these same officers, however, face the danger of having an attempt made to grasp their weapon during a struggle, a holster with good retention capability must be selected, too. Some inner city officers in the United States are so concerned about the danger of having their weapon snatched that they actually carry the weapon on their belt empty, while carrying a second or even a third weapon concealed. Military personnel are normally concerned with protecting their combat handgun from the elements and, as

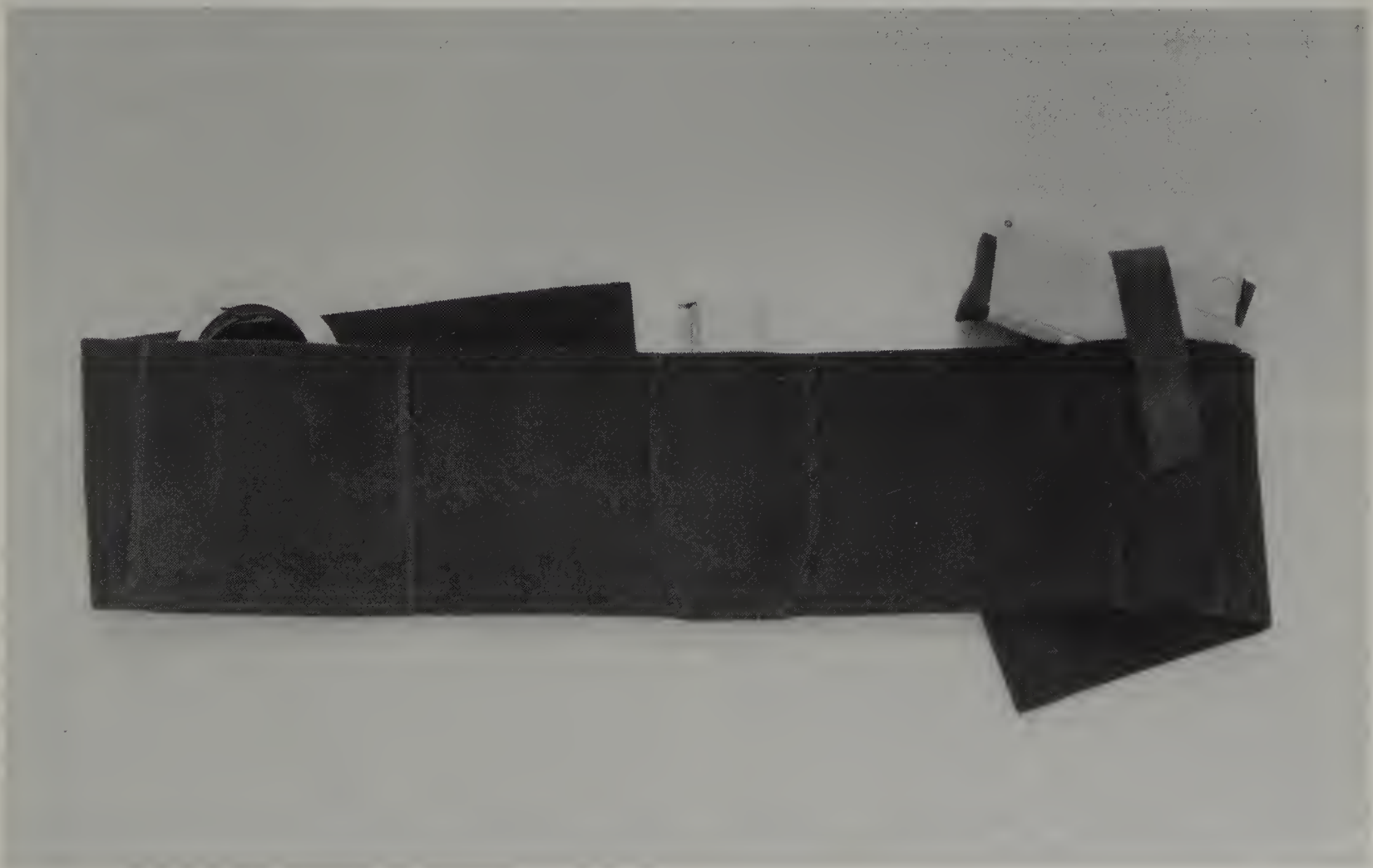
a result, often use a flapped holster. Since their handgun is almost always a secondary arm to a rifle, a crew-served weapon, or a weapons system such as a helicopter or tank, rapid access is not normally a primary requirement, though there are a few exceptions such as Strategic Air Command Security Policemen assigned to certain sensitive static security posts in National Nuclear Defense command posts. Some military personnel by the nature of their assignment favour the shoulder holster. Pilots and AFV crewmen often chose this carry method to keep the weapons out of the way until needed.

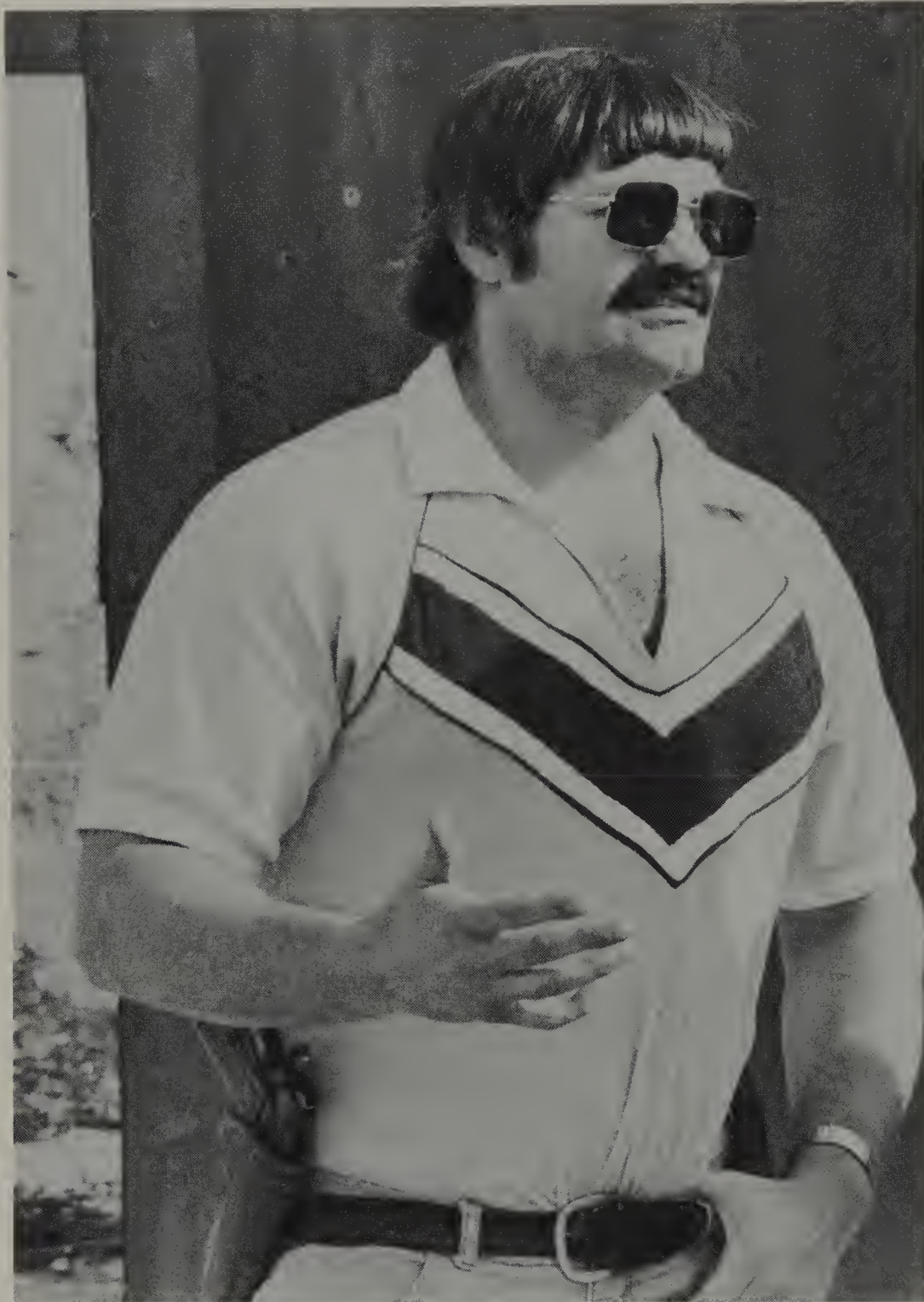
Today, one of the first choices which must be made in selecting a holster, particularly for open carry, is whether to go with leather or nylon. The Blachi UM-84, which is used by the US armed forces, is a good example of a well-designed durable nylon holster. Such designs have become increasingly popular with law enforcement agencies, too, both because of cost, lightness, and ease of maintenance. Eagle industries, Assault Systems, and Uncle Mike's all offer high-quality police duty rigs fabricated of nylon. Among SWAT teams, especially, nylon holsters from companies such as Eagle Industries and Assault Systems have almost entirely replaced leather.

Many teams have holsters that affix directly to their combat vests, while others use the SAS-style drop holster

Left: The most effective .45 acp combat load on the streets, the Federal 230-grain Hydra-Shok Hollow Point.

Below: This DiSantis rig allows the weapon, a spare magazine, and either credentials or handcuffs to be carried easily beneath the shirt.





Left: The author carries his Browning Hi-Power in a Bianchi-Askins Avenger holster. Note that pistol has the muzzle canted rearward to position the grip for a rapid draw.

Right: The DeSantis Gunnysack is one of the most popular of the 'fanny pack' holsters widely used today for unobtrusive carrying of the pistol while wearing light clothing.

which rides low on the leg. In any case, nylon dominates this segment of the law enforcement market. I have one that I'm especially impressed with from Eagle Industries which is designed to carry my Beretta with a Laser Systems flashlight fitted beneath the barrel for clearing rooms in the dark.

Personally, for police use I still feel that leather holster, belt, handcuff case, etc. looks sharper than nylon. Bianchi, particularly, offers a wide assortment of efficient police duty rigs, while Don Hume offers the famous Jordan Border Patrol holster.

Shoulder holsters for overt carry tend to be of nylon manufacture, though there are military-style leather ones available, often from surplus dealers. Among uniformed

police officers, the shoulder holster is used primarily by specialized units such as helicopter pilots, river police, SWAT teams, or others who need to keep the weapon off the waist and/or available on the chest for access while seated. Another group which overtly uses the shoulder holster are outdoorsmen who often choose the shoulder rig to carry a heavy weapon such as a Smith & Wesson or Ruger .44 Magnum. Various holsters are made for this purpose, some incorporating a protective flap. Personally, I prefer the 'Dirty Harry' rig for outdoors use since this same rig can double for concealment use under a relatively heavy coat.

Shoulder holsters are probably most widely used as a method for carrying a large handgun relatively concealed. I say 'relatively' since most shoulder holsters will pattern at



least a little bit, though proper design can allow them to be worn under summer weight sport coats or jackets. My own preference among shoulder holsters are those that use relatively light straps without hardware or ties that create bulges. Another advantage of the shoulder holster is that it gets the weapon up off the belt so that it will not show should one have to stretch to reach something. I have also found that normally for me the most efficient and fastest shoulder rigs are those that use a downslanting position for the gun so that as one reaches under the coat the hand comes naturally to the butt and the thumb easily hits the thumb break to free the weapon. Another advantage of this position is that with practice it allows access with the weakhand in an emergency. I also prefer the shoulder rig to position spare ammunition and, for police, handcuffs under the strongside arm. This combination is especially useful if one carries a weapon in situations when it might be necessary to respond to danger around the clock. For example, when I was working on executive protection teams, I used this type of carry method for my primary arm much of the time. At night, I would drape the Galco shoulder holster I used over a bed post so that if there was an 'alert' I could grab it and go, knowing that I had my Browning Hi-Power and two spare magazines in one package. My own favourites among this type of shoulder rig

are the Miami Classic from Galco (so named because of its use on the TV series '*Miami Vice*', though also by many savvy street cops) and the Horseshoe Leather HAK.

Probably the most popular type of concealment holster is the hip holster designed to be positioned just over the strongside buttock and canted forward for ease of access during the draw. This type of holster is favoured by most US federal enforcement agencies who use the DeSantis Speed Scabbard or some other holster of this type. Although nylon versions of this type of holster are available, for the most part leather still predominates, while a few custom makers such as Ken Null offer horsehide or even sharkskin in models for increased durability. Since police officers and some civilians who carry handguns often find it comfortable to take the holster off while sitting at a desk, some models come equipped with a metal clip for attaching to the belt. Personally I dislike this method, having seen the user attempt to draw and end up with both pistol and holster in the hand, a definite danger in a crisis. More effective is the 'Paddle' style of holster offered by Pro-Line and some others. This style of holster employs a large leather paddle which slips inside the waistband and conforms to the hip. Often an additional ridge of leather is incorporated to create friction against the trousers and prevent the paddle from slipping. This style is very useful if



beltless trousers are worn, though, personally I feel if you're going to carry a handgun you should choose your clothing with this in mind. Among other holsters useful for hip carry with a belt are the Bianchi 'Thumbsnap', Bianchi 'Shadow', Bianchi 'Askins Avenger' (this is one I particularly like), Horseshoe Leather ML or MR, Horseshoe 28, Horseshoe 30, Rybka 'Speed Scabbard', and Null 'Gibraltar Speed Scabbard' (another one I especially like).

A variation on this type of holster is the crossdraw rig, which positions the pistol well for access with either hand or when seated. There are other advantages to this type of holster; the US Secret Service, for example, likes them because in crowds they allow the weapon to be protected with the weakside elbow. Most major holster makers offer some type of crossdraw including the Null 'Cross Draw', Rybka 'Guatemalan', Horseshoe Leather MLX or MRX, Horseshoe 28X or 29X, Bianchi CD series, and others. A very specialized form of crossdraw holster is Ken Null's 'Vampire' which positions the holster horizontally along the

belt and is designed for VIP drivers to allow ease of access while seated behind the wheel of a limo. Another variation is the Middle of the Back or Small of the Back holster offered by Thad Rybka and Horseshoe Leather. This holster is designed to rest in the small of the back and some users find it extremely comfortable. I have found two primary problems with this type of holster, however. For me, at least, it digs into my back when seated and I have found that one must make sure not to wear any type of jacket with a split in back as it is almost certain to ride up and catch on the gun, thereby exposing one's ordnance.

My own favourite method of belt carry is the inside-the-waistband holster since even with short coats, one's weapon remains concealed. Two particular considerations with the inside-the-waistband holster are that it must be positioned absolutely correctly in relation to the hipbone for comfort, and that the style with a loop rather than a clip should be chosen. It may be necessary to have a tailor move the loops in order to correctly position the ISW-style holster for

comfort and speed. My dislike of the clip-type holster has already been discussed. With a good ISW holster there will be no need for a retaining snap since the pressure of the belt against the holster will retain the gun very well. I've worn this style of holster for years, while running and performing other vigorous activities and have never had any problem with my gun jarring loose; however, before using an ISW one should check that it does retain the weapon well during movement. My own favourite inside-the-waistband holster is usually the summer special style rig such as Horseshoe Leather's Model 62L. The Mitchell ARG is another good rig which uses a belt-loop style that lends versatility. One final model of this type I recommend is Ken Null's Undercover Special.

One note with regard to all these types of holsters worn on the waist is that I recommend that one choose carefully

the gun belt to go with the holster. My own preference is for a belt that appears to be a normal black dress belt of 1¼–1½in width but of double thickness leather to keep the holster from sagging and to position it well. Such a belt will prove highly effective but will not immediately be a tip-off that one is armed. Ken Null makes such belts and Horseshoe Leather has in the past and might again if there were sufficient demand.

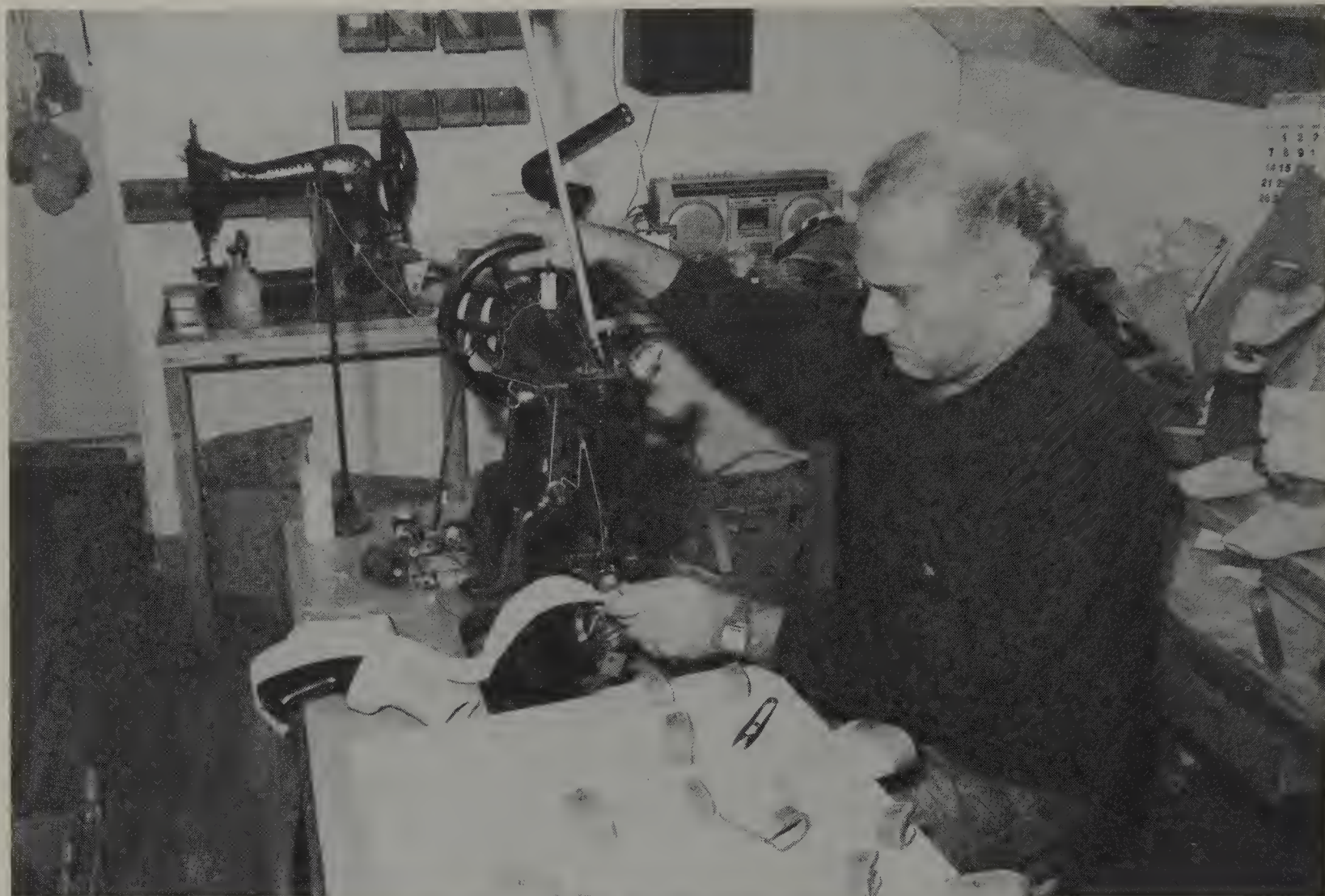
For those wearing very light clothing and still wanting to carry a good-sized handgun there are a couple of alternative carrying systems. An excellent one is Horseshoe Leather's TJM rig which uses a velcro belt and a light leather holster to carry a large weapon low on the hip with the butt just above the trouser level and covered by the roll of the shirt. I have carried a CZ75 for hours when with experienced federal agents and had many of them ask me, 'Where's your

Far left: Note the excellent concealment of this CZ75 achieved with the Horseshoe Leather TJM rig. (Chris Plowman)

Left: The author demonstrates the draw from a TJM deep concealment holster. (Chris Plowman)

Right: The author prefers the 'Dirty Harry'-type shoulder holster for carrying large handguns outdoors.





Above: Andy Arratoonian of Horseshoe Leather, England's foremost custom holster maker fabricates a deep concealment TJM rig. (Chris Plowman)

Left: The hip pocket holster is designed to resemble a wallet when the LWS-32 is carried with the flatside of the leather facing out.

Right: The Ken Null Vampire is a specialized crossdraw designed for VIP drivers; it enables the weapon to be drawn while seated behind the wheel of a vehicle.





gun today?' The draw is somewhat slow with the TJM, but can be enhanced with practice. I use the same 'snatch draw' technique I would use when wearing a jacket, using the weak hand to clear the shirt while the strong hand goes for the gun. Preceding the TJM and still a useful carrying system for smaller weapons such as the J-frame S&W revolver or the Walther PPK is the Bianchi Belly Band, an elastic band with the holster actually stitched into the band. This system is also useful for undercover use or deep concealment. Finally, DeSantis recently introduced their own version of the Belly Band but capable of carrying a larger weapon such as a Glock 19 or 23. Additionally, this band incorporates a pouch for credentials or handcuffs and a pouch for a spare magazine or a strip loader for revolvers. Normally, this DeSantis rig works best if the weapon is positioned under the weak arm in the position a shoulder holster would normally be worn. The draw would then be made by reaching through the gap in one's shirt or, in the case of a pullover, under the shirt.

Another popular carry method when not wearing a jacket is the ankle holster. This, in my opinion, has about an equal number of advantages and disadvantages. On the plus side, the ankle holster allows a weapon to be carried concealed, even when a T-shirt, or, for that matter, no shirt is worn. The ankle holster is also very accessible when seated in a

vehicle, aircraft, or chair. For the police officer using it for a second or 'backup' gun, the ankle holster has the advantage of allowing access to the weapon even if the officer has been disarmed and has his or her hands handcuffed behind the back. The disadvantages of the ankle holster are that it limits one to trousers with relatively loose legs to allow access. Even in the best of circumstances the draw from an ankle holster is slow. One must either raise the leg carrying the gun and hop while drawing, go to one knee, or, most efficiently, go into a position with one knee bent and the other leg stretched out, which allows reasonably rapid movement after the draw. In none of these cases, is the draw really fast. Personally, I also find the ankle carry uncomfortable, though I have many friends who use this carry and like it. It is at its best for a second gun rather than a primary handgun.

Variations of the ankle holster are the boot holster which clips into the top of a boot, or, in custom boots, may be sewn in, and the upside down calf holster which positions the weapon on the calf suspended with the butt downward for the draw. Both of these carry methods have the same disadvantages as the standard ankle holster. All three types of holster also limit the size of pistol or revolver to be carried. Normally, an S&W J-frame revolver or a Walther PPK or similar-sized .380 is chosen, though I have known



large men who carried 2½in S&W K-frame Magnums in this manner. Excellent ankle holsters are available from Ken Null and Personal Protection Systems.

One of my own favourite methods for carrying a second handgun and, in certain situations such as when I am not wearing a jacket, a primary arm, is in the sidepocket in a specially designed holster. Such a holster positions the pistol so that it is readily accessible, helps break up its outline, and protects it within the pocket. On the Thad Rybka models I prefer there is also a nub at the top of the holster against which one presses the thumb to help shed the holster during the draw. Small autos such as the TPH or LWS-32 can be easily concealed in a sidepocket holster in very light trousers or shorts, while the Walther PPK or S&W J-frame can be carried in a larger pocket. Even the SIG P-230 can be carried in a sidepocket holster. Another advantage of this carry method is that one can unobtrusively

thrust a hand in the pocket if danger is sensed and be ready for a draw, while putting one's hand on a hip-carried or shoulder-holster-borne handgun might attract undue attention. In addition to Thad Rybka, Ken Null also makes good quality side pocket holsters.

Although I normally find them uncomfortable when seated, many who carry pistols like hip pocket holsters. Pachmayr makes an interesting version which is permanently affixed to an S&W J-frame revolver and also carries five spare rounds of ammunition. Other pistols often carried in a hip pocket holster are the Seecamp LWS-32 and the High Standard .22 derringer.

With the increased popularity of jogging and the collateral popularity of 'fanny packs' which affix around the waist, specially designed versions of these packs have become one of the most popular methods of carrying a handgun in light clothing. Most of these packs are designed



Left: The author carries this custom S&W Model 25-5 with 2½in barrel in a custom upside down shoulder holster from Horseshoe Leather.

Above: For most effective use, the Personal Protection System's 'fanny pack' needs both hands during the draw.

Right: The author believes that inside-the-waistband holsters such as this one from Horseshoe Leather are among the best for concealment.





For very small pistols such as this .25 auto, the vest pocket can be an effective place to carry the weapon.

Below: The flapped holster such as this US military issue model made by Bianchi for the M9 protects the weapon from inclement weather, but affords slow access in a crisis.

Right: This special-purpose 'holster' was designed to allow a businessman to keep a combat weapon concealed beneath a counter or desk where it would be really accessible.

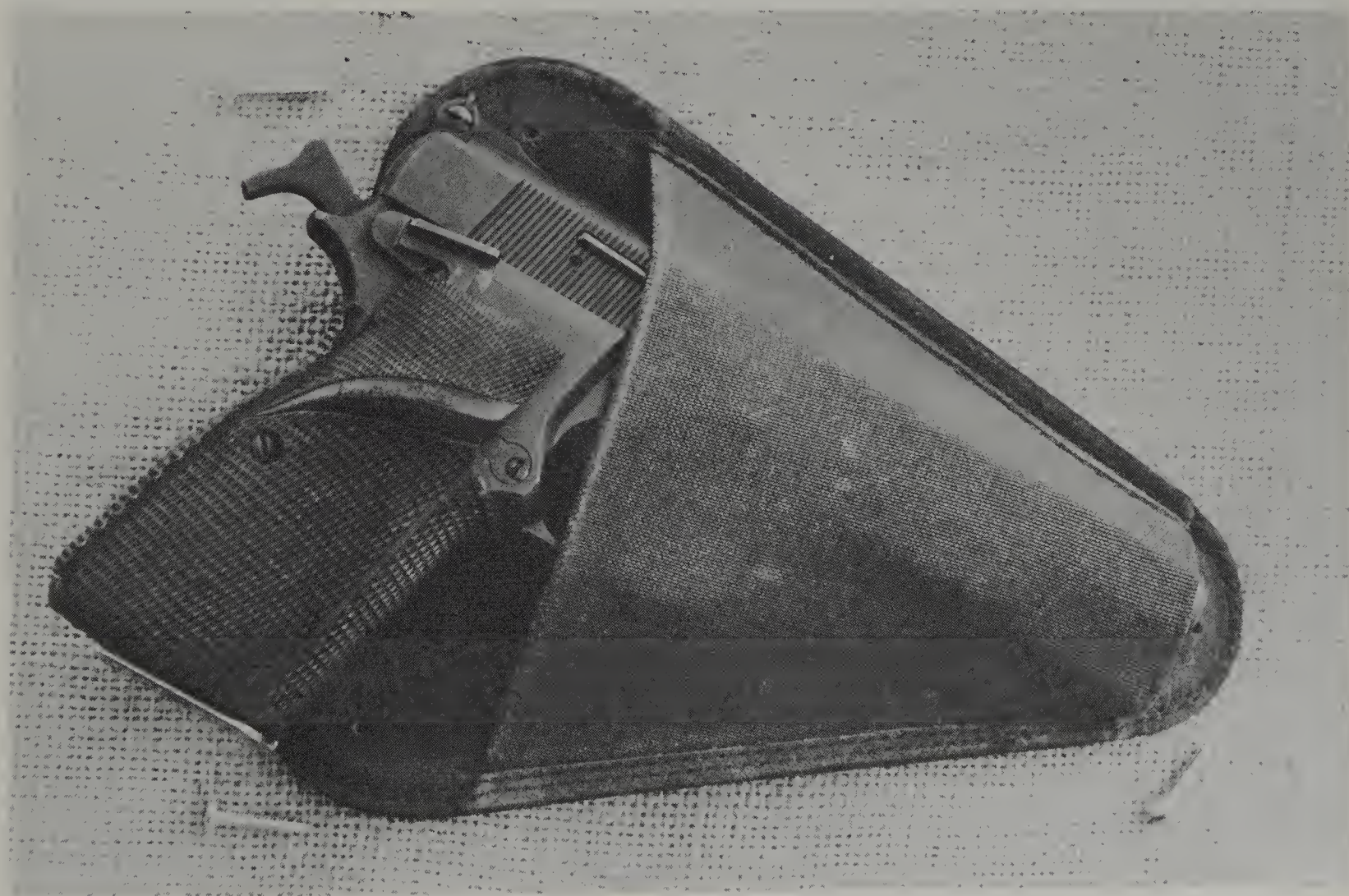


with the front portion of the pouch functioning as a traditional place to carry money, car keys, ID, etc. However, those designed as pistol carrying systems normally also incorporate a holster hidden within the back portion of the pack. Access to the weapon is normally gained by grabbing the top of the pack with the weak hand and pulling away a Velcro release which allows the strong hand to draw and bring the pistol into action. Depending on the size of pack chosen, large weapons such as 4in barrelled revolvers and full-sized service autos can be carried. I have two sizes of pack, one which I use for a PPK or SIG P-230 and one which I use for a Glock 23. My experience indicates that one needs to choose a fairly lightweight gun for this type of carry, both for comfort and to keep the system relatively low profile. Packs are available in leather and nylon in all styles. My own favourites are from Personal Protection Systems, but the DeSantis 'Gunny Sack', and versions from Eagle Industries and Assault Systems are also very popular.

There are also carry methods in which the pistol is not actually on the person. For women there are specially designed purses with built-in holsters. The type of handbag carried by many European men and a smaller number of American men has also been designed for carrying a gun. For both sexes, specially designed briefcases offer another option for carrying the handgun. Each of these types of carrying system, however, has the disadvantage of allowing

the weapon to be separated from its user, whether by a purse-snatcher, by being dropped in a struggle, or being kicked out of reach. As a result, I do not think very highly of such carrying methods. If one does use a briefcase or bag to carry the weapon, I would recommend carrying a smaller backup handgun on the person. I have on occasion, for example, used a soft briefcase with a built-in holster to carry a large pistol such as a Smith & Wesson Model 629 or a SIG P-210. Simultaneously, though, I also carried a Walther PPK on my person so that if I became separated from the case I would not be completely unarmed. Some of the handbag carry methods include a wrist strap attached to the gun so that if the bag is snatched the gun remains attached to the user's wrist. This is not a great system, but it is better than losing one's pistol. Various makers now make purses or briefcases designed for carrying handguns. Some even incorporate a Kevlar shield so that the bag can also be used to provide ballistic protection. I have been especially impressed with purses from Feminine Protection Systems and other types of bags from Personal Protection Systems and Eagle Industries.

Methods of carrying a pistol vary almost as much as individuals. Some experienced gunmen don't use a holster, but instead prefer to tuck a pistol into their waistband, perhaps using friction tape on the grips to keep it from shifting. Others tuck small pistols directly into the pocket. I



know of one drug enforcement agency outside the USA whose agents who carry a Walther TPH secreted in their tie! Others have taped pistols about their persons or suspended them from chains or cords around their necks. Very specialized holsters have been designed for concealed carry. Crotch holsters, for example, have been used based on the assumption that most men have a built-in distaste for looking at other men's crotches and, hence, will not notice the presence of a weapon. With practice such holsters are actually relatively fast.

In the home or business, weapons are often hidden where they will be out of sight but still easily accessible. One manufacturer used to offer a holster especially designed to be fixed under desks or counters. Growing in popularity in the USA are compact gun chests or safes that keep a loaded weapon locked away so that children or others cannot get at it, yet by quickly punching in a combination, access can be gained in seconds.

The combat handgun is designed to defend its user's life, but to accomplish that goal the weapon must be available when needed. That means that it must remain safe and secure about the person, about the home, or about the business for years in position for instant access. As a result, the method for carrying the weapon or storing it in home or business must be given the same careful thought that ammo choice and weapon choice are given.



LEATHER PRODUCT

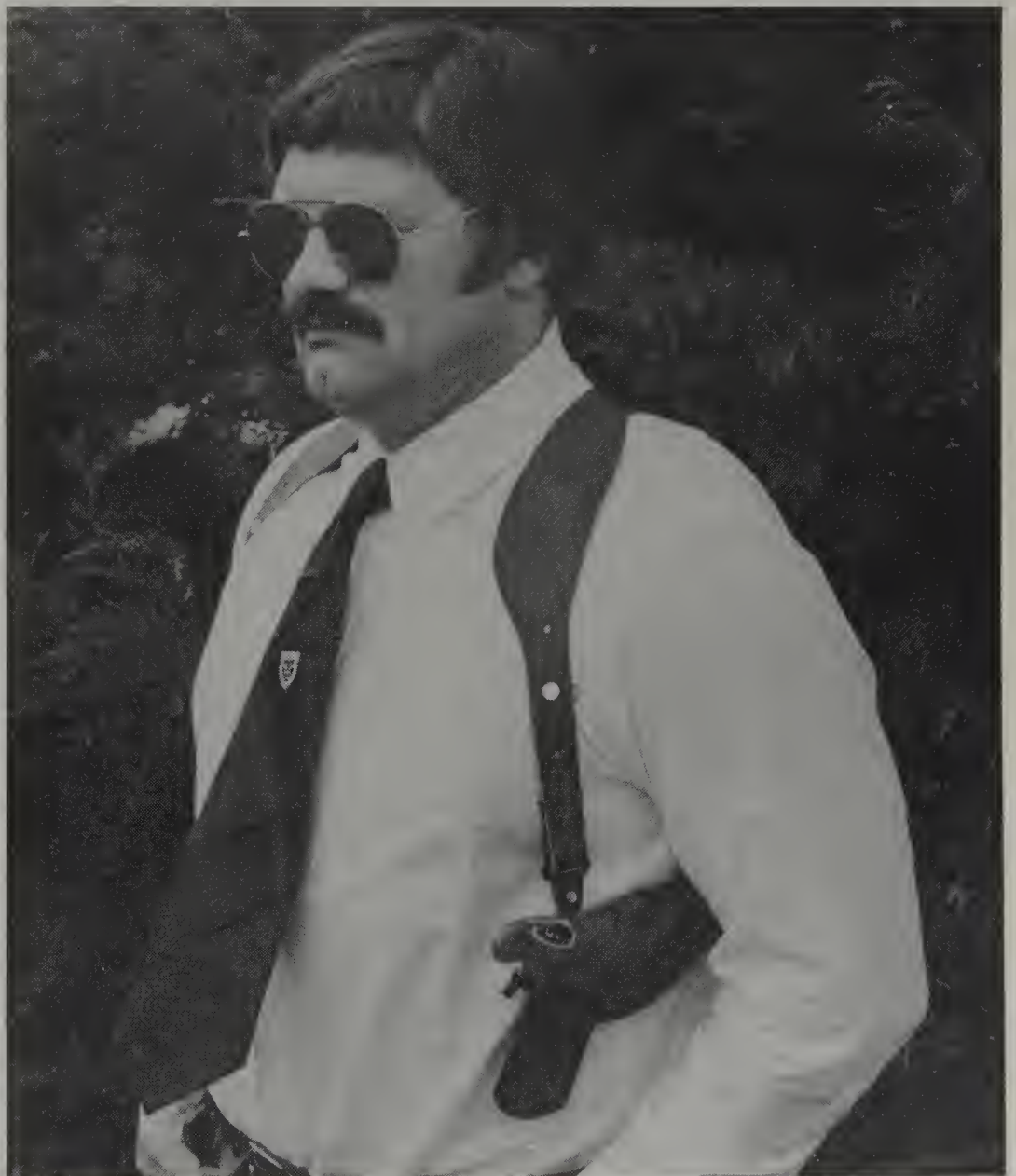


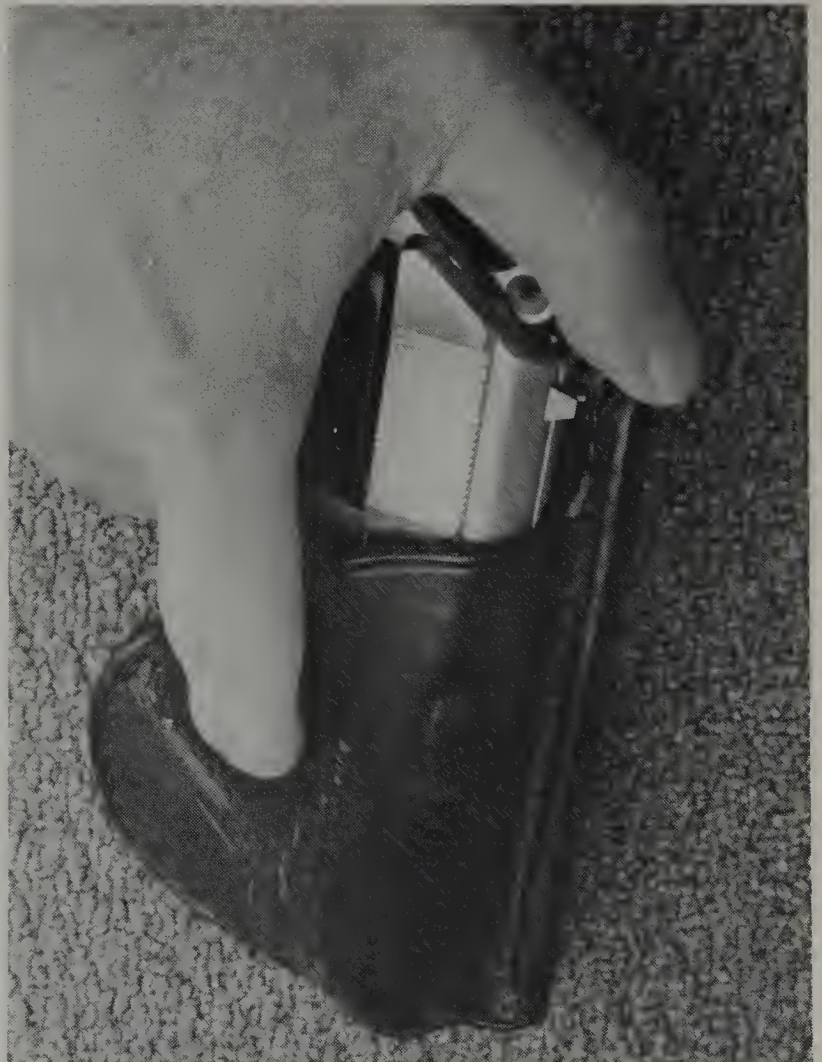
Left: Military-style rigs such as this one are comfortable for openly carrying the combat handgun and normally position the weapon out of the way.

Below left: This Galco rig is perfect for carrying the author's Model 629 S&W 'Mountain Magnum'. The author likes the presence of the spare dump pouches under the weak side arm.

Above: Leroy Thompson at left and Ken Hackathorn at right flank Andy Arratoonian at an arms show in England. Note the assortment of holsters and belts Arratoonian has available for the discriminating shooter.

Right: Down-slanting shoulder holsters of this type offered by Galco and Horseshoe are comfortable and allow ready access to the weapon.







Top left: Many purse or briefcase holsters incorporate a holster at the centre concealed by a fold. Access can be gained quickly by thrusting the gun hand through a velcro closure.

Far left: Ballistic nylon holsters such as this one from DiSantis are now being used for concealed carry as well as overt carry. Note that this inside-the-waistband rig uses a belt clip, which the author does not favour, and

incorporates a spare magazine pouch.

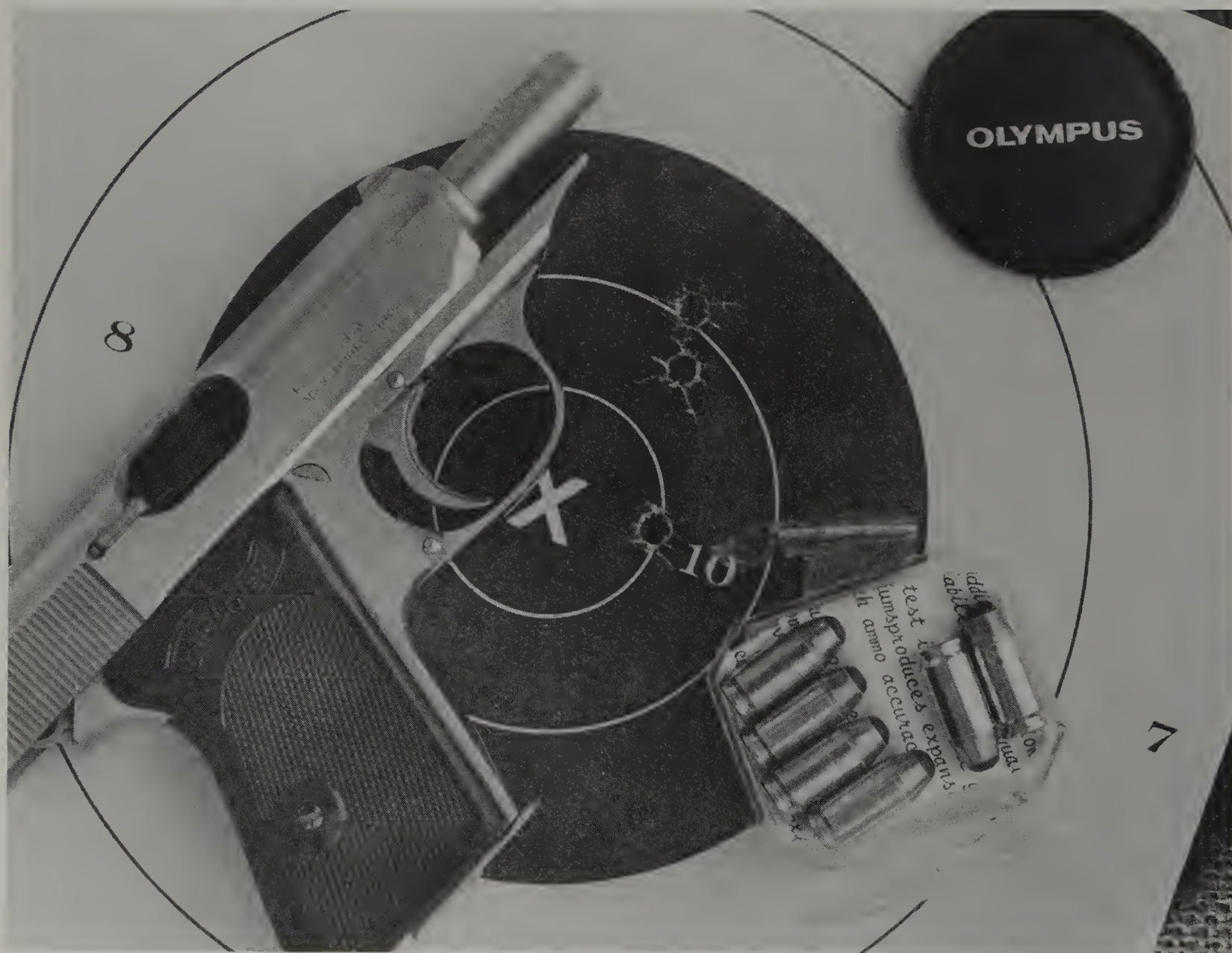
Left: This nub at the top of Thad Rybka's sidepocket holster allows the user to shed the holster in the pocket as the gun is brought into action.

Above: An ankle holster should normally be carried inside the weak side leg to allow rapid access by the strong hand. This model from DiSantis is very popular with off-duty or plain clothes police officers.

During the more than 25 years that I've been carrying a handgun, I've used dozens of pistols and revolvers; however, there have only been a few that I've used for long periods. For almost twenty years, the Browning Hi-Power was my primary combat handgun, but some years ago I switched to the SIG P-226 which I carried for three years because of its reliability, accuracy, and safety. I then switched to the Glock 19, which had many of the features of the SIG that I liked, but was also more compact and lighter. Much as I liked the Glock 19, when the Glock 23 was introduced I liked the idea of a heavier bullet with more surface area and striking power even more so I switched to the Glock 23 in .40 S&W calibre. That is my current primary combat pistol. Since I would prefer to settle any situation where it is necessary to display a firearm without using it if possible, the larger bore of the Glock 23 has additional appeal because of its intimidation effect. Loaded with 180-grain Federal Hydra-Shok ammunition, I carry the Glock 23 in a Horseshoe Leather inside-the-waistband holster. In one of my pockets I carry one spare magazine of ammunition. This gives me 27 rounds (thirteen in each

magazine plus one in the chamber) available on my person. I consider that sufficient firepower to deal with most situations I'm likely to encounter. Even fully loaded, however, my Glock 23 weighs only 30.5 ounces. When one has to carry a gun for up to twelve hours a day, a few ounces makes a great difference. I also like the Glock's safety system, which allows it to be instantly ready for action while remaining safe unless the trigger is pulled. I should say, however, that much as I like this system it has drawbacks in two situations: it is very easy for a child to pick up and fire, and it is an easy weapon for an assailant to fire should it be snatched from its user.

The Glock's polymer frame and magazines are a real plus in my view, not only because they make the gun lighter and easier to carry but because they add durability. The polymer frame also seems to cushion recoil, and most find the same cartridge fired from a Glock will seem to 'kick' less than from a steel-framed gun. The myth in the media, of course, when the Glock was introduced was that it could circumvent airport security devices. This, however, is a typical unsupported statement. I have worked on teams



evaluating magnetometers and x-ray detection devices and have found this to be untrue: the Glock can be detected.

I do not like the adjustable sights offered on some Glocks, and for myself choose only the fixed combat sights with white outline. These I find very fast to acquire. To be honest, I have not found my Glocks quite as accurate as my SIG P-226, though both the 19 and 23 have been very close, so close in fact that I consider the difference irrelevant when I compare the ease of carry. The Glock is a very well-designed pistol, easy to shoot and excellent for instinctive pointing. But for me the smaller Glock 19 and 23 are far more comfortable than the larger 'full-sized' Glocks.

I have now fired nearly 5,000 rounds through my Glock 19 and more than 1,500 through my Glock 23; both have proven extremely reliable. I have very strict standards for a pistol on which I might have to stake my life. Even one malfunction causes me to look very carefully at its cause. I have been highly satisfied with the performance record of both of my Glocks, though, and have the confidence in them that one must have in a combat pistol.

I shoot my Glock 23 at a minimum of once a month, with at least 100 rounds each time I shoot. I vary my distances between 10 feet and 25 yards to cover likely combat distances and carry out rapid drills for engaging multiple targets at varying ranges. My Glock, an excellent instinctive pointer with fast acquisition sights, responds excellently. I fire at least one magazine full weak-handed during each shooting session and normally fire at least one magazine full, in single-shot sequences from the leather. I consider this a very serious combat weapon and train accordingly. Because of the Glock's safety lever incorporated into the trigger, one must be constantly aware of where the trigger finger is. When moving, drawing, re-holstering, etc., the trigger finger must always be removed from the trigger and placed along the frame of the gun. Good habits must be practised with all guns but especially with the Glock.

Often, I carry a second gun along with the Glock or, if my clothing precludes carrying the Glock, instead of the Glock. My second combat choice is the Walther PPK, in the stainless American-made variety. I carry my PPK loaded with Federal 90-grain Hydra-Shoks in a Thad Rybka sidepocket holster as a backup to my Glock or, in some attire, as my primary weapon. I always carry the PPK with the flat-bottomed magazine in place and carry the finger-rest magazine as my spare. When carrying the PPK as a backup I do not normally carry a spare magazine.

The PPK is a special favourite of mine because it combines very small size – it's a true pocket pistol – with surprising accuracy for such a small pistol. With a .380 one needs good bullet placement and the PPK allows such

placement. I also like the fact that the PPK is a double-action, which allows a rapid first round, yet allows it to be carried very safely in a pocket. Additionally, the PPK's hammer drop safety allows it to be loaded safely, while its loaded chamber indicator enables me instantly to know if it has a round chambered without having to pull back the slide. I have carried a PPK of one sort or another for almost 20 years, but I have found the current US production to be the best I've used. Since the weather is very humid in St. Louis where I live, guns carried in the summer often show signs of rust, but the stainless PPK has proven impervious. It has also held up well to hard usage over a five-year period, which has included hundreds of rounds per year fired through the weapon as well as many thousands of hours of carry.

Although there are other excellent .380 autos, none combines small size with effectiveness as well as the PPK. It's a pistol which can always be at hand, even when it would be inconvenient to carry a larger weapon. In fact, because of its compactness I consider the use of a belt holster or a shoulder rig with the PPK a waste. It is at its best as a pocket pistol and should be carried in that manner, though for those who fancy ankle holsters it would work well there, too.

Since I do sometimes carry the PPK as my primary arm, I practise with it accordingly. A typical practice session will involve a hundred rounds, many fired after drawing from the pocket and using the double-action. Other drills will include engaging multiple targets rapidly at different ranges, often after an initial close-range engagement from the pocket double-action.

In addition to the Glock 23 and Walther PPK, there is one other combat pistol I carry on a frequent basis, occasionally as a third gun, but more often as a second gun to one of the others. This is the Seecamp LWS-32. Often, when carrying another pistol, I carry the Seecamp in my left front pocket for access by my weak hand. It is thus available should my right (strong) hand or arm become disabled or should there be a struggle for my primary gun. Since it is a double-action only, the LWS-32 is very safe. Lacking sights or other protrusions, it is a perfect pocket pistol, one that is not likely to snag during the draw. It is also extremely small, the size of a .25 auto though chambered for the more powerful .32acp.

The Seecamp is designed strictly as a very close-range weapon and, thence, I would not normally carry it by itself. However, occasionally when wearing very light clothing I do carry my LWS-32 as my only arm, on the assumption that a small .32 auto is better than no gun at all. I do not practise with the Seecamp as often as I do with my Glock or my PPK; but when I do I try to practise as realistically as possible, normally including drills in which I draw and engage the target in one motion.

I realize that for many readers the idea that I often carry three guns and even more frequently carry two may seem

Left: The PPK is perhaps the best pure pocket pistol in the world, but shots must be placed very well when using it.



Left: Leroy's combat choices: the Glock 23; Walther PPK; and Seecamp LWS-32.

Right: The newest 9mm and .40 S&W combat autos such as the Glock 19/23 or the Firestar are virtually as compact as previous .38 autos. Note the Glock 19 and the SIG P-230.

extreme or paranoid, but I would remind them that I live in the city with one of the highest homicide rates in the United States. I also work with police raid teams and hostage rescue units, military counter-terrorist and counter-insurgency units, and national VIP protection teams. As a result, I am frequently carrying a pistol in situations where the likelihood of confronting heavily armed and desperate individuals is rather high. I view the carrying of at least one backup gun in the same way as I view the carrying of a spare tyre for my automobile.

My personal choice of combat handguns is based on the assumption that the three pistols complement one another and cover the various threat and concealment levels I'm likely to encounter. I feel they accomplish this magnificently.

Although most good combat handguns share certain characteristics such as reliability, certain positive features may weigh more heavily in the selection of a handgun for one of the three most common reasons such handguns are normally chosen: home-defence; concealed carry; duty/service usage. In the following discussions of these three main categories of combat handgun, emphasis is laid on the features appropriate to the gun's intended role.

Home Defence

In countries such as the United States, where a civilian may legally possess a handgun to protect his or her home and person, it is quite common for a loaded pistol or revolver to



be kept in the house. As a result, especially when there are multiple family members, including children, safety is a primary feature in choosing the home-defence handgun. Weapons such as the Glock, which utilize easily manipulated triggers and safeties, would normally not be a good choice. Among automatic pistols, those such as the Smith & Wesson or Walther, which have a safety that prevents the weapon being fired together with a relatively heavy double-action trigger pull, normally offer the best choice. Revolvers may offer an even better choice for home-defence because one can easily see if a revolver is loaded or unloaded by looking at the front of the cylinder or by opening it. Double-action revolvers also offer the safety of a relatively heavy double-action trigger pull, though unless the revolver is double-action-only, it can be cocked and fired with a lighter single-action pull. To enhance safety on revolvers the Magna-Trigger safety, which locks the action unless the user is wearing a special magnetic ring, is perhaps the ultimate after-market item. Many companies in the United States are now offering a compact gun safe, instantly accessible by a punch-in combination, to secure a loaded gun yet make it instantly available if needed.

Along with safety, ease of operation is another important aspect of the home-defence handgun because many owners of such weapons are not really sport shooters who practise often. The fact that all adult members of the family and probably teenage children will have to be taught to use the weapon safely means that one must have a weapon that is easy to handle; for the family home-defence weapon, the revolver will often be the best choice. Should an auto be chosen, the decision will have to be made whether to keep the weapon loaded with a round chambered, or unloaded with a loaded magazine ready for insertion in an emergency. If the latter system is chosen, it will be necessary to make sure that all family members likely to use the weapon can pull back the slide and chamber a round. The Beretta line of tip-up barrel autoloaders specifically addresses this problem, offering an alternative way to load without having to pull back the slide. The Seecamp .32 offers another solution in that the magazine can be removed from this small auto while a round is left in the chamber. With the magazine removed, however, both the hammer and slide are locked thus rendering the weapon safe. Another point to bear in mind about ease of operation of the home-defence handgun is that the weapon may be needed immediately after being woken up from a sound sleep to face a stressful situation, when ease of manipulation becomes even more critical.

Since most shots likely to be taken with a home-defence handgun will not be at ranges of more than 15–20 feet, precise accuracy is not absolutely necessary, though one still wants a weapon allowing careful placement of shots, particularly if one considers the possibility of having to place a shot carefully after a family member has been taken hostage. In reality, all handguns considered in this work

will normally meet the accuracy requirement for a home-defence weapon.

Although compactness is not as important in a home-defence arm as it is in a concealed carry weapon, there are still reasons for choosing a relatively compact handgun. Barrels of medium or shorter length are normally desirable because they allow less of a 'lever' for an assailant to grasp during a struggle for the gun, a possibility when facing a late night intruder. For certain situations, too, a handgun compact enough to slip in the pocket when answering the door or dealing with other potentially threatening situations where one does not want to display a weapon is preferable. On the opposite side of the coin, many home-defence situations are resolved without gunfire if the weapon has a good intimidation effect, thus convincing an intruder to surrender or leave rather than face an armed householder. Therefore, some trade-off is likely here. A good compromise is a compact weapon that still shows a relatively formidable bore, the Rossi short-barrelled .44 Special revolver being an excellent example of a gun that fulfills both functions.

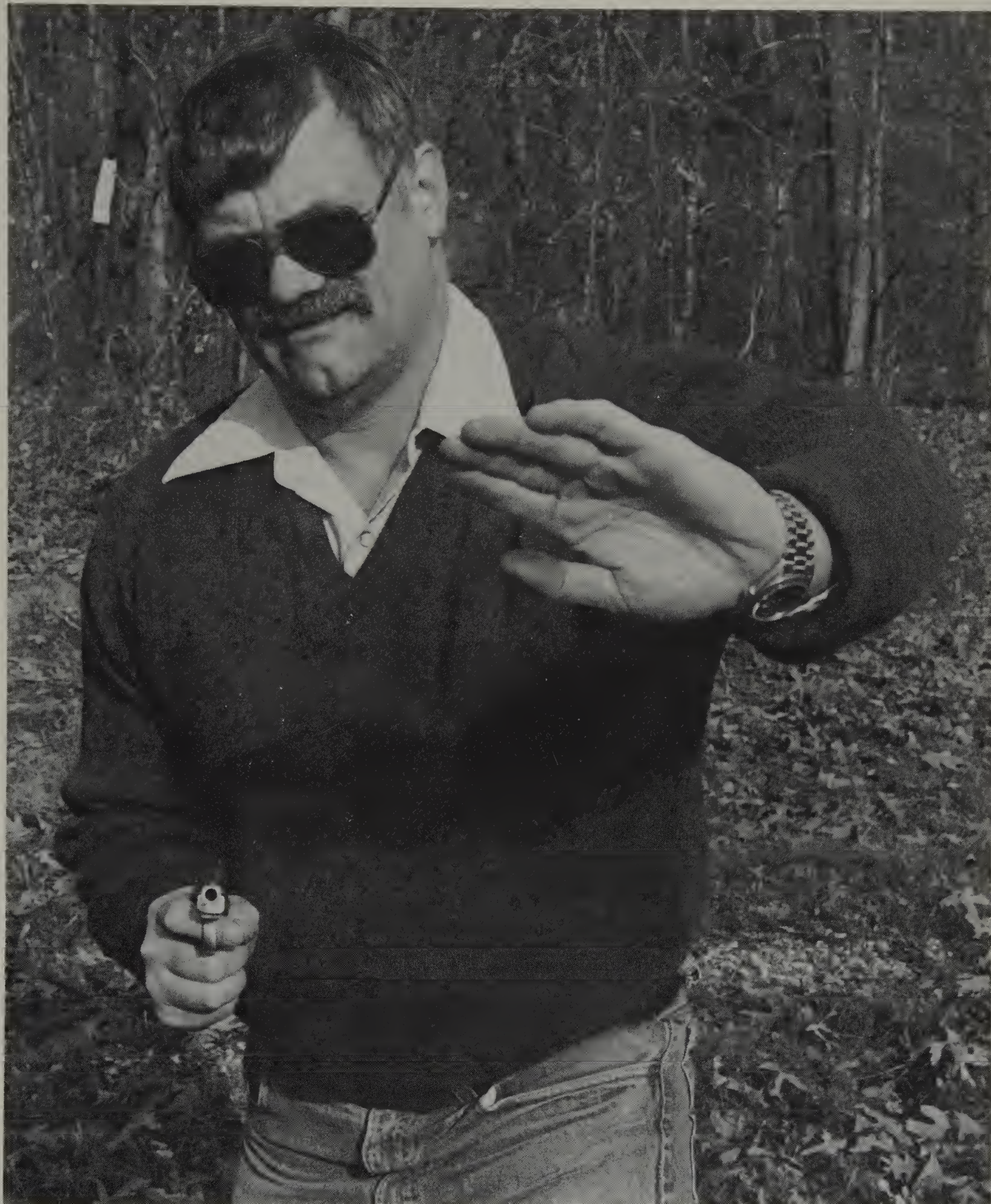
Calibre and ammunition choice for the home-defence gun will be somewhat dependent upon whether one lives in an urban apartment or a rural ranch house, but one certainly does not want to endanger the neighbours or other innocent bystanders and one should choose ammunition accordingly.

Since the home-defence gun will often sit for months at a time waiting for an emergency, durability and ease of maintenance are other desirable characteristics. Personally, I like stainless steel handguns for this reason. The bores of stainless weapons will normally appear larger than those of equivalent-sized blued steel weapons; hence, stainless guns will usually have more of the intimidation effect discussed above.

To summarize, then, the home-defence gun needs to be durable, reliable, accurate enough for room-sized shot placement, compact enough to make it hard to wrest away yet appearing powerful enough to deter violence, and easily manipulated even when woken from a sound sleep in the middle of the night.

Concealed Carry

Whether for off-duty or plainclothes police or military personnel or for civilians licensed to carry a handgun for defence, the concealed carry handgun has certain unique characteristics. Normally such weapons will optimally be of sufficient power to stop an assailant rapidly yet will be compact and light enough for comfort in carrying the arm for extended periods. Although many concealment arms are really just service revolvers or autos with shorter barrels and perhaps a shorter grip, others are purpose-designed, often intended for carry in a pocket rather than a holster. Especially for pocket handguns, sleek designs with few



Above: The LWS-32 is designed for deep concealment use and very close-quarters combat. In this case, Leroy practises shoving an assailant away while bringing the Seecamp into action.

protrusions to catch during the draw are desirable. Concealed carry handguns should also allow a mode of carry which enables them be brought immediately into action, whether this be a double-action for autos and revolvers or a cocked-and-locked single-action carry for autos. With a gun strapped on or tucked into a pocket each day, durability is also important.

For concealed carry usage there are both excellent automatics and revolvers. Revolvers such as the S&W J-frame are especially good for tucking into a pocket, while autos such as the Walther PPK or the Seecamp LWS-32 offer covert defensive capability from the pocket. A bit larger, but still far more compact than standard service arms, are autos such as the Firestar, Glock 19/23, Colt Officers Model, and SIG P-228/229 and revolvers such as the Smith & Wesson Model 19/66 or 13/65 in 2½in or 3in barrel mode. Even 4in barrelled revolvers conceal quite well with the proper choice of holster, and full-sized service autos such as the CZ75, Colt Government Model or Commander, and Browning Hi-Power conceal very well, too. On the other hand, the Glock 19/23 or SIG P-228/229 conceal very well yet retain the magazine capacity and power to serve as an overt service pistol. For police officers, for example, wanting one pistol for carry on and off duty either of these offers an excellent choice.

Although cartridge capacity is not as critical as with the service arm, the fact that most people carry either just the weapon or the weapon and one reload does mean that a weapon that can remain compact yet have a reasonable

number of rounds is to be preferred. The Walther PPK, for example, carries seven rounds of .380 when fully loaded, while the S&W J-frame holds five rounds of .38 Special. If one were only going to carry the gun with no reloads on the person – not a practice I recommend – I would choose the PPK as it increases ones ability to sustain fire in a gunfight by almost 30 per cent.

Although the possibility of having to shoot at ranges out to at least 50 feet exists with the concealed carry arm, I normally would opt for fixed low-profile sights which are not likely to snag during the draw, speed of getting the weapon into action being of primary importance with this type of handgun.

The best concealed carry handgun, then, will either be a scaled-down service auto or revolver carried in an inside-the-waistband or shoulder holster or some other concealed carry mode, or will be a purpose-designed pocket arm such as the Walther PPK, S&W Model 642, or Seecamp LWS-32.

Service Handguns

The service revolver or automatic is chosen primarily for its stopping power and reliability. Size and weight are far less of a consideration than with the concealed carry weapon. The service weapon will normally be carried openly along with at least two reloads in either speedloaders or spare magazines. The fact that the service handgun will be openly carried on the belt or perhaps in a shoulder holster allows



even large-framed weapons such as the S&W Model 629 or 625 to be chosen. The service weapon, especially in the military or in rural law enforcement, may have to be accurate at a greater range than any other type of handgun except perhaps the long-range hunting revolver. As a result, good sights, often click adjustable, may be desirable on the service arm, though they are certainly not required, and personally I still like fixed sights when possible to preclude the possibility of them being jarred off. Normally, though, the service weapon will be in the hand already when trouble threatens and, hence, the fear of snagging on the clothing is lessened, especially since this type of weapon is normally carried openly rather than beneath a coat.

Calibres most popular for service arms include .38 Special, .357 Magnum, .45 Colt, 9mm, .40 S&W, and .45 acp and, thus, the chances of a one-shot stop are enhanced with these larger weapons. One also has more leeway in finding a grip that is very comfortable on a service arm since extra size does not infringe on concealment. Barrel length is still a consideration on the service arm, particularly if it will be carried while riding in a vehicle. Normally for belt carry, unless one is quite tall, 4–5 inches is about the right barrel length for service autos or revolvers, granting sufficient sight radius for good shooting yet keeping the barrel from dragging on the seat.

Since the service arm will often be worn exposed to the elements, stainless steel arms should be given strong consideration here. Beretta, for example, introduced their

Model 92 in stainless steel specifically because of the large number of agencies adopting the pistol as a service weapon. Another consideration for the service arm is that it is worn visible and, hence, in a struggle an assailant might try to snatch the arm. Therefore, pistols with proprietary features that make them difficult to operate without experience and training have certain points in their favour. The S&W or Beretta autos, for example, which can be carried with the slide safety applied, might well confuse an assailant long enough for a backup gun to be brought into play or for control of the weapon to be regained. The squeeze-cocking P7 is another example of a pistol offering some difficulty of operation for those not trained with it.

The service weapon must be durable, reliable, and accurate. Large magazine capacity and/or the ability to reload quickly are also desirable features. Certainly, nothing precludes a service weapon carrying out the additional functions of home-defence and concealed carry. I knew one police officer who used a Smith & Wesson Model 13.357 Magnum with a 3in barrel as his duty gun. Equipped with a Magna-Trigger Safety, he felt that if an assailant snatched it he would be able to accomplish little while my friend went for his backup gun. The same Model 13 rested on his nightstand as a home-defence arm and rode his hip off-duty as a concealment arm.

If, however, one chooses one's handgun for a specific task, some thought about what that task entails will often allow the choice to be a much more effective one.

Left: Members of a US Army Reaction team clear a room with the Berettas during training.

THE DIRECTORY

AMT Backup

Type: double-action only automatic pistol.
Maker: American Machine & Tool, Inc., Irwindale, CA, USA.
Calibre: .380 acp.
Overall length: 127mm, 5.0in.
Barrel length: 70mm, 2.75in.
Weight, empty: 548gm, 19oz.
Magazine capacity: 5 + 1.
Construction: stainless steel, fixed sights milled into top of slide.

The AMT Backup has been around for some years in its original format incorporating a single-action trigger mechanism, but the new double-action only version offers the potential of being a more desirable concealment arm. The original AMT Backup developed a sound reputation for accuracy, some examples being among the most precise pistols in this calibre ever seen. In original form, however, one was faced with the choice of carrying the AMT either in Condition Three with an empty chamber and, thus, having to rack the slide to prepare it for action in an emergency, or carrying it in Condition One with a loaded chamber and the safety applied and, thus, having to worry about the possibility of the safety working off while the gun was in the pocket. The new DA Backup incorporates what appears to be a version of the Seecamp double-action mechanism to allow more confident carrying of the pistol ready for action. Another improvement on the new version from my point of view is the incorporation of a flat-bottomed magazine instead of the hooked finger-rest version previously used. Although this magazine allowed a better grip, it also made the gun much more difficult to carry in a pocket, and that's really what it was intended for.

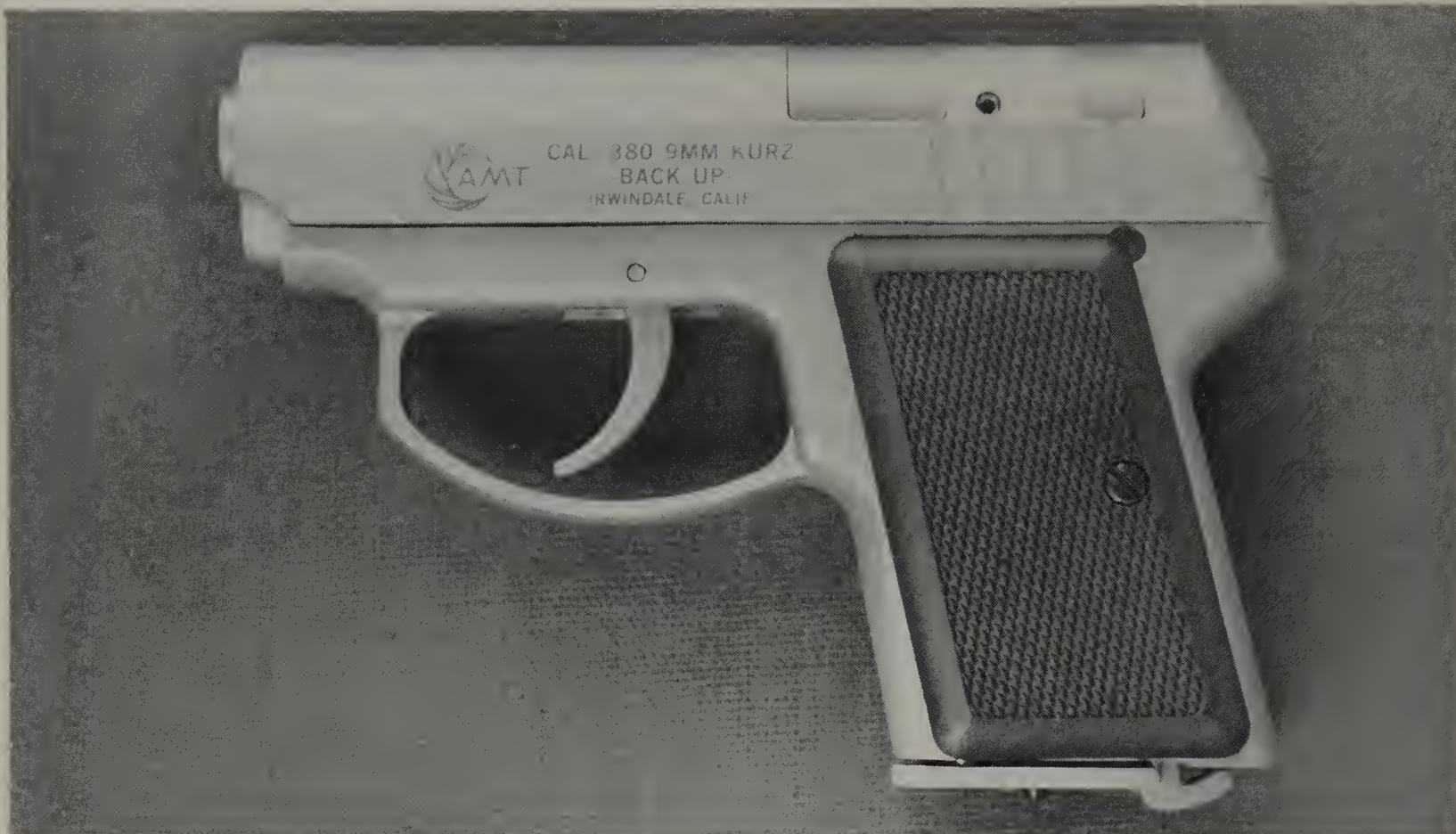
In fact, much of the AMT Backup's initial popularity was among police officers who liked to carry it as an on-duty backup gun and an off-duty gun. Many, however, would actually take the magazine and grind much of the hooked finger rest off to make the weapon easier to conceal in a jacket or trousers pocket. One aid to concealment on the Backup is the rear sight, which is actually just a slot milled in the top of the slide. As a result, there are no protrusions atop the slide to snag during the draw. In fact, the entire Backup is now quite free of protrusions, the magazine release being a compact button at the base of the frame, and there no longer being the necessity for a safety lever. The hammer does not have a protruding horn either. One concern I would have about the current version of the pistol as a pocket arm is that a portion of the double-action trigger bar is exposed on each side of the grip panel through a cut in the frame, so lint or threads in a pocket could become entangled, either rendering the pistol inoperable or impeding the draw. On the other hand, if one carries the AMT in a side pocket holster, as I would recommend, this potential problem should be eliminated.

The AMT Backup has a matte finish which is a plus in a combat arm as it cuts reflectivity both for a better sight picture and to make the gun slightly less noticeable. Grips are checkered black plastic and offer a good non-slip surface. Anyone with normal-sized hands should be able to get a good grip on the pistol, though the little finger will rest beneath the magazine base. Personally I have never found this an uncomfortable position and am used to it on compact autos. The trigger guard offers good access, though I could conceive of someone with thick fingers having trouble comfortably getting the trigger finger into position. Winter gloves would also perhaps thicken fingers too much for easy access. The trigger itself is relatively long with a healthy curve and is smooth.

Various things become apparent when shooting the DA Backup. First, the trigger pull is quite heavy, with a tendency to stack just before letoff. This definitely degrades accuracy somewhat. On the plus side, since the double-action pull offers the only safety, the heavier pull makes an inadvertent discharge much more unlikely. Speaking of safety, the AMT Backup incorporates a barrel cutout at the point where the extractor grasps the cartridge which also acts as a loaded chamber indicator since a chambered round will be visible. Because one's hand and wrist are tensed due to the heavy trigger pull, recoil also seems to be somewhat more noticeable in this pistol than in most .380 autos.

In firing the AMT Double Action Backup I was definitely not impressed with the accuracy, the heavy trigger pull causing me to get six-shot groups in the 7- to 10-inch range at ten yards. In firing 150 rounds, too, the gun never really 'wore in' and became reliable, there being at least two failures to feed and often more in each magazine fired. This was true with hollow point and full metal jacketed ammunition. I would say that the problem was either that the chamber was slightly too tight and needed to be throated or the feed ramp needed to be polished. Both these procedures can be performed easily and inexpensively by an experienced gunsmith, though one does expect a combat pistol out of the box to be reliable.

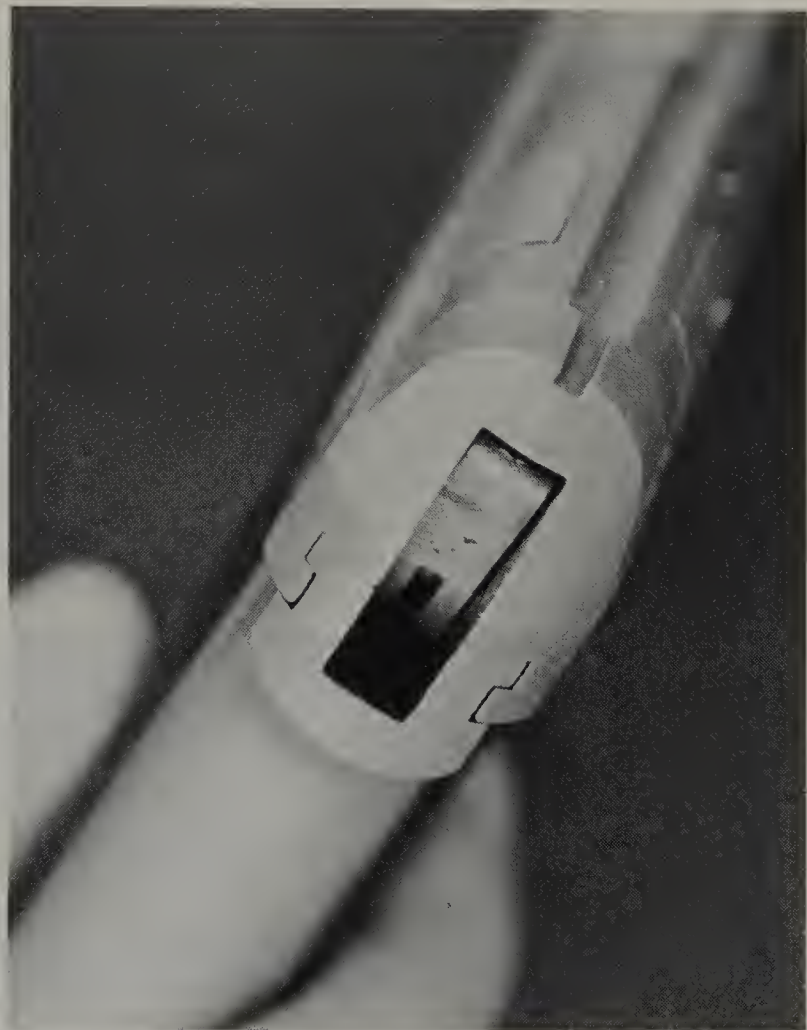
These problems with accuracy and reliability are, of course, the negative points in considering the AMT DA Backup as a self-defence pistol. The gun is also quite heavy for its size, a negative aspect for pocket carry. On the positive side, this gun offers a viable combat loading in the .380 acp cartridge in a very compact package, one that can be kept ready yet safe due to the double-action mechanism. I would recommend this gun for those wanting a very compact yet hard-hitting pistol with the stipulation that one should buy it from a dealer who will allow it to be test-fired for reliability, or plan to turn it over to a gunsmith for feed-ramp polishing and chamber throating. Other pluses for the Backup are that it is fabricated of stainless steel, offering better corrosion resistance, and it is quite reasonably priced.



Above: Note the smooth lines of the AMT Backup which aid in concealment, but also note the relative tightness of the trigger guard which may pose problems for those with thick fingers.

Below: This side view of the Backup shows the double-action trigger bar which is partially exposed and also the loaded chamber inspection port where the extractor meets the barrel.





Above: The heavy trigger pull made good shot placement difficult, even at distances as close as 10 yards. This group, though acceptable at combat ranges, is certainly not great and was within an inch of the author's best during the testing.

Above right: De-horned hammer and sights milled into the slide are among the features that make the AMT Backup a good concealment arm.

Right: Although the AMT Backup handled quite well, the heavy double-action trigger pull seemed to magnify recoil.



Astra A-70

Type: single-action semi-automatic pistol.
Maker: Astra-Unceta y Cia, Guernica-Viscaya, Spain.
Calibre: 9mm Parabellum.
Overall length: 166mm, 6.5in.
Barrel length: 89mm, 3.5in.
Weight, empty: 830gm, 29.24oz.
Magazine capacity: 8+1.
Construction: all-steel, blued, with fixed sights.

Introduced in the early nineties, the Astra A-70 is a compact pistol whose main goal seems to be to contest the new Star's 'Firestar' success, while the 'back-up' concept is gaining more popularity in Europe and the Spanish gun manufacturer's reputation is now totally restored.

Strictly speaking, the little Astra offers more than the Star in some respects: with its more squared shape and for one extra millimetre of overall length and 3 extra millimetres in height, it has a barrel 3mm longer, weighs 25 grams less, and has one more shot in the magazine (provided the extended magazine of the Star is not used, but that 8-shot magazine adds much more weight and height for the same capacity . . .).

Mechanically the A-70, not surprisingly, offers nothing new: it amalgamates a long list of field-tested principles such as buttonhole unlocking system, conical barrel end, long spring guide, well-conceived manual safety and slide stop levers, excellent grip shape for good handling characteristics, squared trigger guard whose front strap is checkered like the front and back straps of the grip, lateral magazine catch, bobbed anti-snagging hammer.

The trigger pull is above average with a 2mm course and a very crisp weight of 3kg, which would seem a bit too much to some but is totally acceptable on a combat, not a

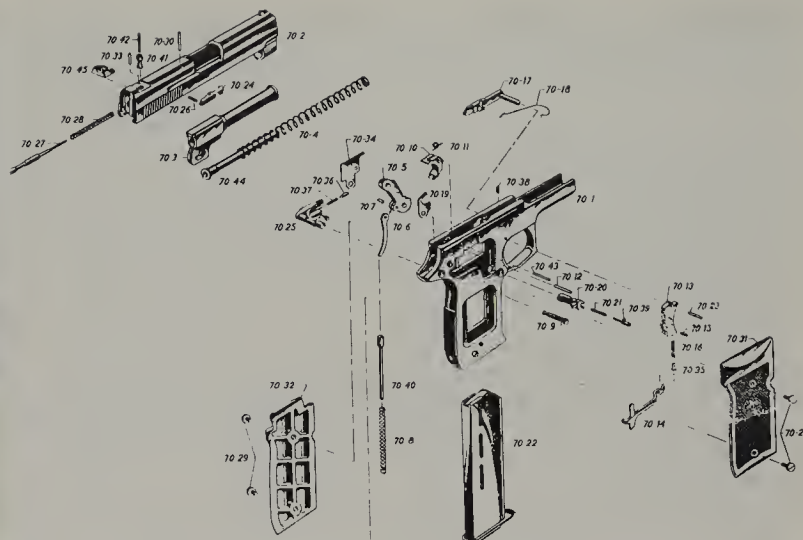
competition, gun. For what is mainly a very concealable back-up or undercover gun, the sights are inevitably low but otherwise excellent, giving a very good and quick sight picture.

This little pistol was first tested for an article in a gun magazine; customarily, the weapons are first sent to the photographer so as to be immaculate when pictures are taken, and the photographer, a very able specialist, having completely disassembled (and reassembled, which is much much more difficult!) many extremely puzzling weapons of all kinds over many years, reassembled this pistol incorrectly in placing the slide stop over (and not under) its spring (which is fixed inside the frame). Yours truly made the second (and very bad mistake) of merely spraying oil into the gun prior to testing it, trusting his mate to have, as ever, correctly assembled the pistol.

The test was made during a professional police shooting contest with moving targets in extremely quick and realistic fun-house situations, and I was 'killed' more than once due to stoppages, the slide being blocked in the back position although the magazine was not empty. I didn't understand what was happening (that the spring was pushing up the slide stop permanently!) before having the opportunity to disassemble the pistol, with the following conclusions: the best experts – like my photographer – can make one mistake, and one is enough; I was extremely imprudent through overconfidence (many cops are killed just for that reason) in not checking the gun completely before using it; a gun can seem to be perfectly operable and yet not be so (manipulation of the slide with the magazine well empty was perfectly normal); the Astra A-70 CAN be reassembled incorrectly. The little pistol is a valuable tool for professionals needing a very good back-up, possibly using the same ammo as the primary weapon, which is a wise technical choice when selecting a back-up gun.

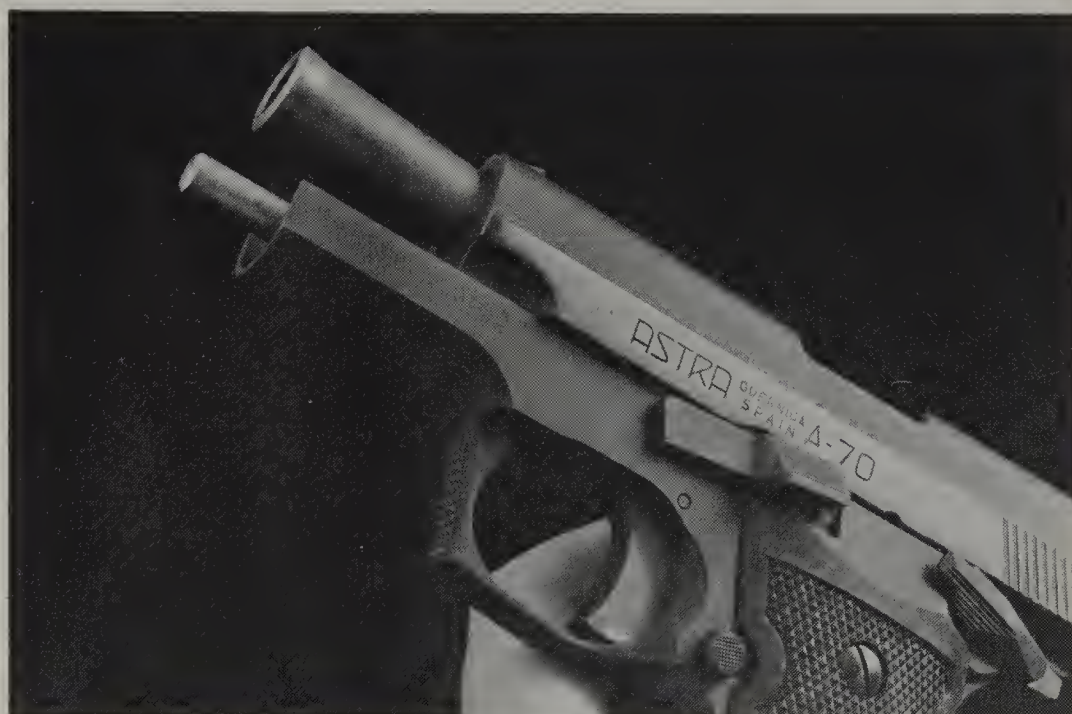


The Astra A-70, left-hand view; note its square shape which enables a single-row 8-shot magazine to be fitted, and the checkering of trigger guard, front and back straps of the grip.



Field stripped and with the grip plates removed, the little pistol shows an amalgamation of good battle-tested principles: buttonhole unlocking, long return spring guide, conical barrel eliminating the need of a bushing, simplicity of mechanism.

Exploded view, illustrating the few parts.



The typical way a combination of conical barrel and long guide shows up when the slide is back and the gun unlocked.



Close-up on the slide stop spring; one must be careful not to place the slide stop OVER that spring when reassembling the A-70, or the pistol will stop while firing.

Astra A-80, A-90, A-100

Type: double-action semi-automatic pistols.

Maker: Astra-Unceta y Cia, Guernica-Viscaya, Spain.

Calibre: 9mm Parabellum (A-80 also in 38 Super Auto, 45ACP, 7.65mm Parabellum; A-90/A-100 also in 45ACP).

Overall length: 180mm, 7.5in.

Barrel length: 96.5mm, 3.8in.

Magazine capacity: 15+1 (38 Super and 7.65mm Parabellum, same capacity; 45ACP 9+1).

Construction: all-steel (A-90 also in stainless steel).

The A-80 has the magazine catch under the butt, the A-90 has the magazine catch on the left side of the frame and a manual safety on the slide; the A-100 has the magazine catch on the left side of the frame.

At the end of the seventies, the Spanish arms manufacturers had a very bad reputation concerning their handgun production, although one of their 'three bigs' (Astra, Llama, Star) had already produced, in 1975, what was to be the first factory compact pistol ever made in 45ACP, the 'PD' (Police Department) which still is, by the way, one of the very best in this category (see the appropriate section).

Then pressure from the German Police Programme of 1975 led to the adoption of three different pistols logically named P5 (Walther), P6 (SIG-Sauer) and P7 (Heckler & Koch), the three main Spanish manufacturers issued, at the beginning of the eighties, some very interesting new models, all having the same general characteristics: large capacity in 9mm Parabellum, long guide for the return spring, and double-action.

None of those models (Astra A-80, Llama M82, Star M30) was totally original, but all borrowed excellent principles from other guns that had already made their

reputation. The A-80 and its followers, for example, are nothing more than adaptations of the SIG P-220/P-225 (P6)/P-226 family, this borrowing having been possible as a result of the mysterious and extremely intricate links existing in Europe between many of the largest and most renowned gun manufacturers.

From a global point of view the A-80 is, effectively, a P-220 (magazine catch under the butt) reduced to the P-225's overall dimensions but having the large capacity of the P-226! But such a brief remark does less than justice to a gun whose 45ACP version had been proposed long before the S&W Model 645 was thought about and even before the introduction of the once 'magic' Devel Eight magazine, a capacity of not 8 + 1, but 9 + 1, due to the long grip which gives a 'square' look to the pistol.

But the A-80 is not strictly a Spanish-made SIG; the most obvious differences being the location of the take-down latch on the right side of the frame (left side on the SIG), not forgetting a different shape for the trigger guard, the hammer, the spur of the frame and the longer grip. Internal differences are more important, mechanically speaking: the locking system is entirely different, using a single lug in place of the square chamber of the SIG; the ejector is considerably simplified on the Astra, and the latter uses a totally different firing-pin safety.

I tested the A-80 in 1982 (9 mil) and 1985 (45ACP), and my impressions were mixed: just as an example, the trigger weights were respectively of 2.3kg/5lb (9 mil) and 1.7kg/3.75lb (45ACP) in SA, and of 5.8kg/12.75lb (9 mil) and 9kg/19.8lb (45ACP) in DA; with my sample gun in 45ACP, I had literally to pull up the trigger to obtain the separation of the sear and the hammer. Also I must confess that I was never a fan of the double lever (decocking and slide stop) on



Both faces of the A-90 in blued steel 45ACP (above) and stainless steel 9 Parabellum (below); note that the manual safety is ambidextrous, and that the dismantling catch is on the right side of the receiver, contrary to the SIG P-226.

the left side or the magazine catch under the butt, although I don't underestimate the advantage of the latter's ambidextrous capacity. So I was not really impressed by the performances of a gun otherwise very well-designed and manufactured. But I'm not an *aficionado* of the P-226, even if that pistol is highly prized by such top professionals as the co-author of this book, and many others. More recently (1991), I had the opportunity to test the A-90. Most obvious differences: the magazine catch is now placed on the left side of the frame just behind the trigger guard, and the gun is equipped with an ambidextrous S&W look-alike manual safety on the slide. When 'on' (down position), this safety pivots the rear extension of the firing pin, leaving the hammer free to move but making any percussion impossible. I don't really understand the purpose of this safety; it is superfluous on a gun that is otherwise perfectly safe to

carry and handle, but the American uniformed police are paranoid about being shot by their own guns snatched from the holster by an aggressor. Massed Ayoob, one of the most renowned American gun instructors and himself a police officer, is a strong advocate of this kind of manual safety on the S&W pistols, and advises all his pupils never to carry their S&W with this safety 'on'. But I'm sure that not all the criminals are stupid and some of them must know the secrets of the S&W safety. Another problem is that the lever is reversed and must be pulled up (and not down) to shoot, which is against nature . . . and not very fast.

With the 45ACP A-90, I had the same trigger-pull problems as with the 45ACP A-80; it is illogical to believe that the calibre has something to do with the trigger mechanism, but the fact is that the importer said that the complete slides (with barrel and spring) and receivers were

The gun in its plastic box, with its spare magazine; the operator's manual is beneath the foam in the cover of the box.



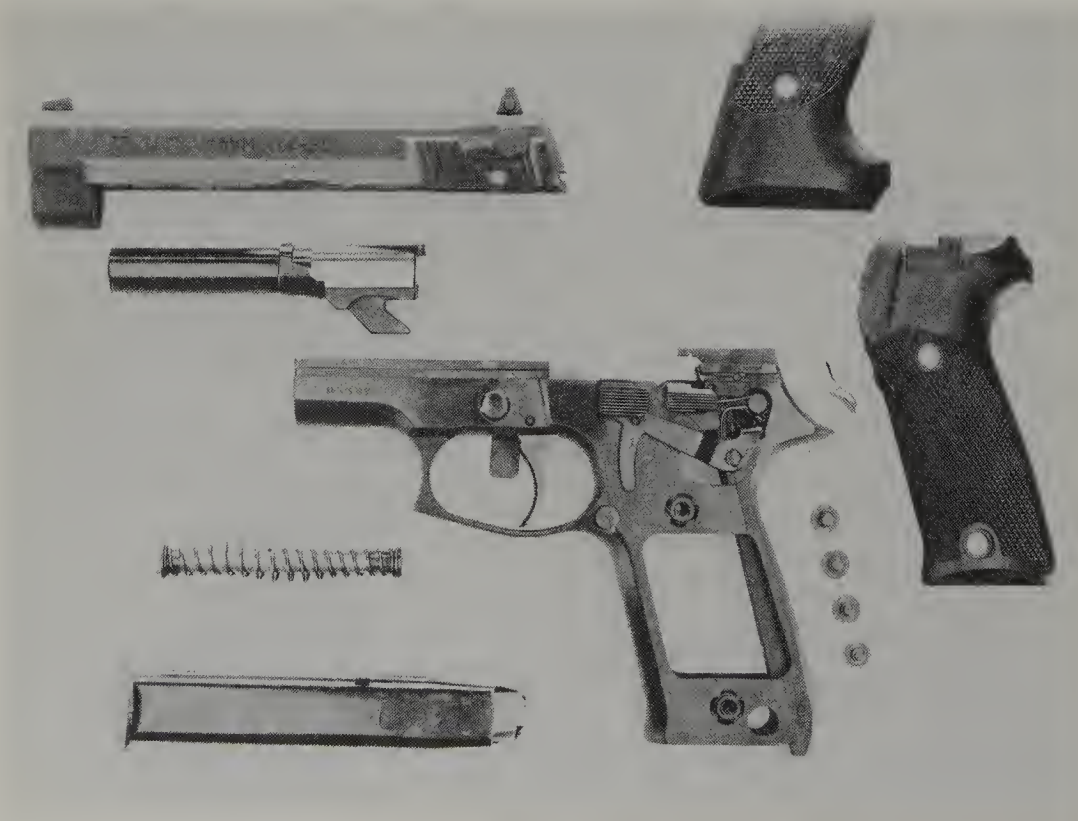
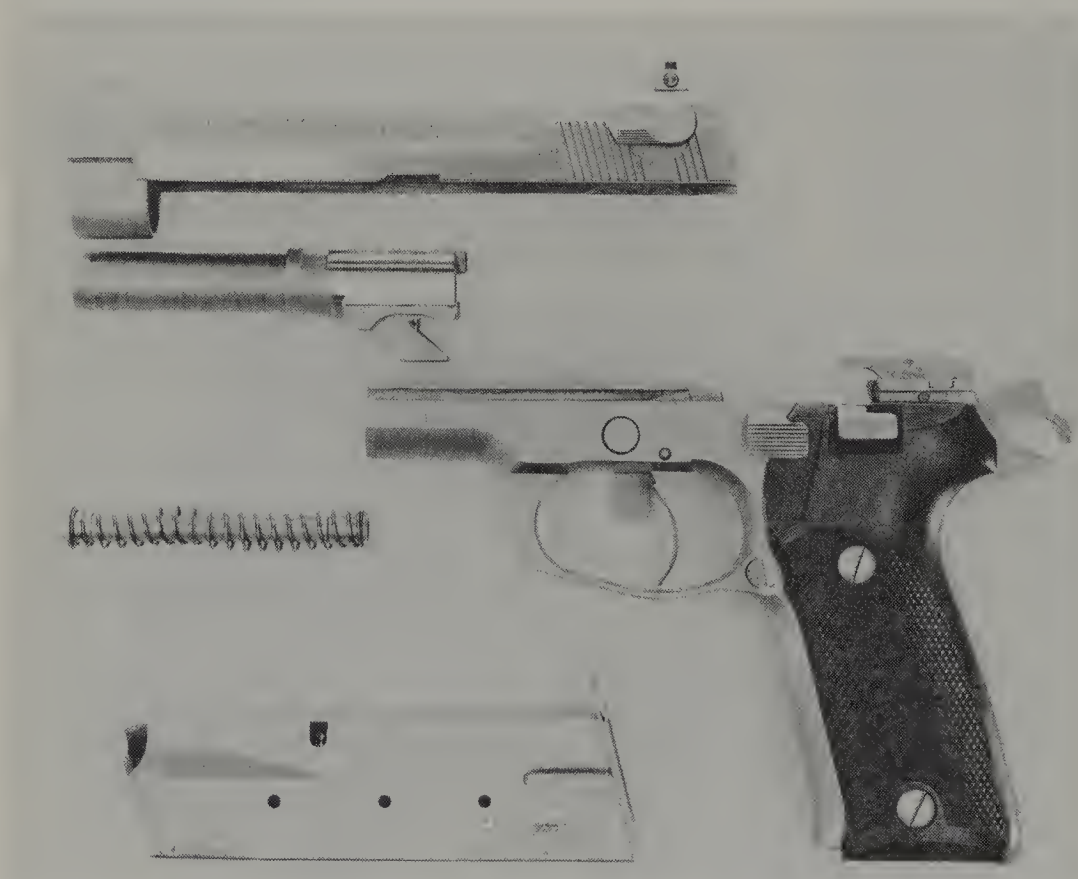
A very good-looking mixed blue (45ACP) slide and stainless (9mil) receiver; with the proper 45ACP magazine, the gun performed flawlessly, with a better trigger pull than the all blue steel 45ACP!



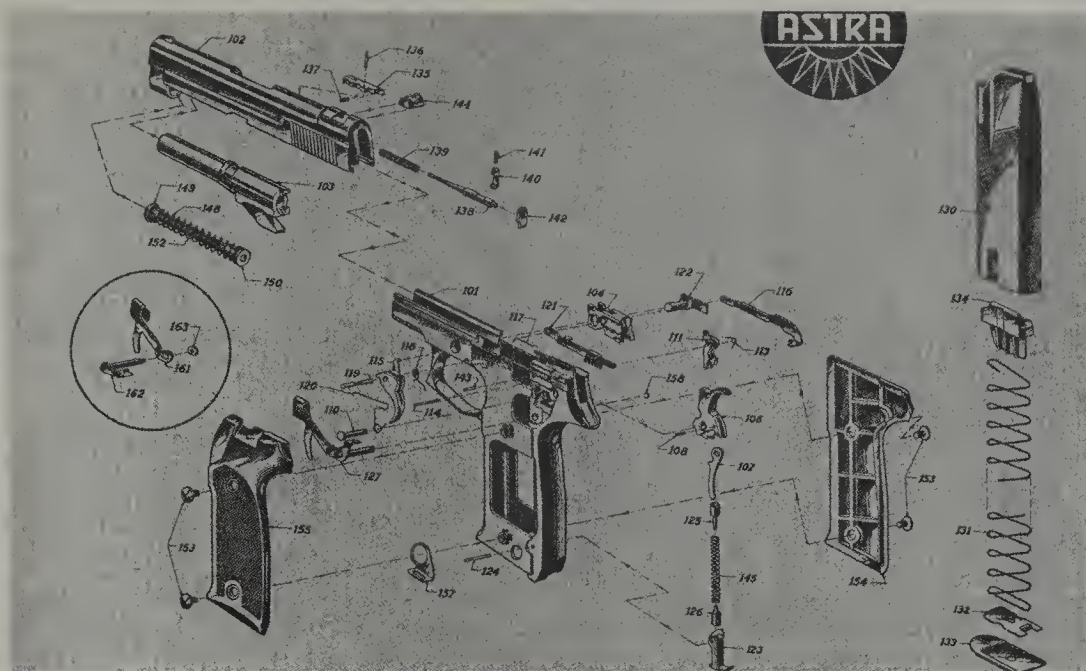
interchangeable, so I mixed the slide (and magazine) of the 45 ACP with the frame of the 9 mil, and, surprisingly enough, both cannibalized guns seemed to have a better DA trigger pull; anyway, the mixing is possible and efficient, and one can buy one gun plus a complete slide and some magazines of the other calibre and have two guns in one. Furthermore, a mixed blued steel slide with stainless steel receiver gives a very pleasant look to the pistol. Accuracy is

very good, both calibres are easy to handle with little muzzle flip, and I believe the Astra is as good as the SIG P-226, especially if you only trust a gun made entirely of steel. But if I had to carry one of those Astras, I would certainly select the A-100 which offers the advantage of the more conventional magazine catch on the left side, without the slide manual safety of the A-90.

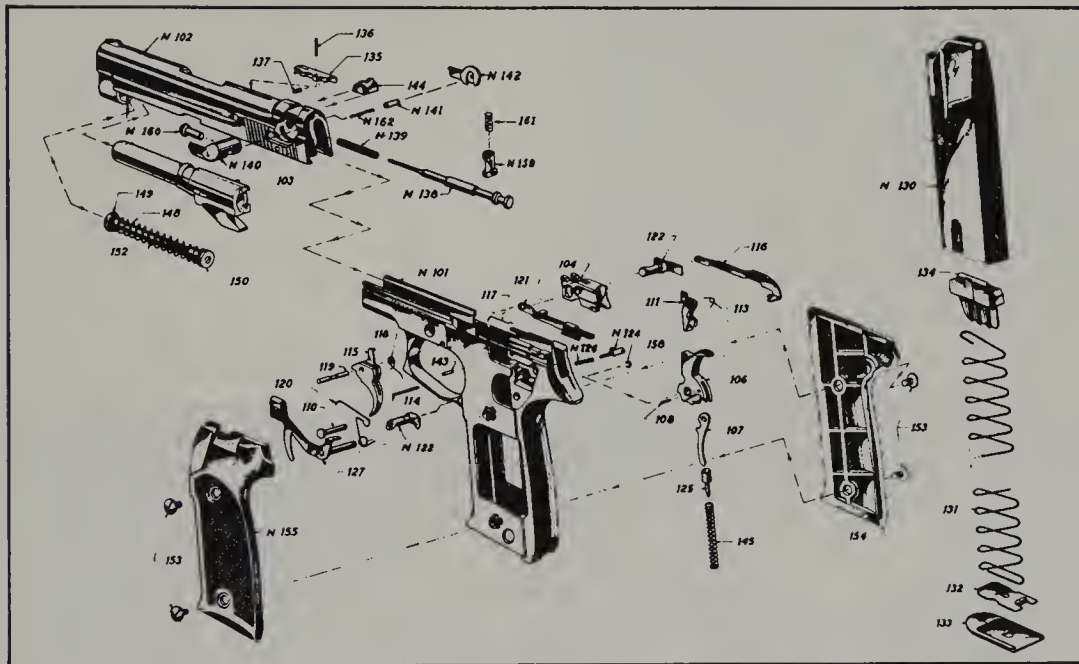
The field stripping shows one of the major differences with the SIG: the locking/unlocking by a single lug in place of the squared barrel chamber.



Left and right: Close examination of the mechanism will show that the Astra A-80/90/100 family is largely 'inspired' by the SIG P-220/225/226 pistols.



Exploded views of both A-80 (above) and A-90 (below) pistols; the only differences is in the firing pin and manual safety system, added on the A-90



Astra Modelo 680

Type: double-action revolver.
Maker: Astra-Unceta y Cia, Guernica, Spain.
Calibre: .38Spl.
Overall length: 167mm, 6.5in.
Barrel length: 51mm, 2in.
Weight, empty: 604gm, 21.14oz.
Cylinder capacity: 6.
Construction: stainless steel, fixed sights.

Not many European handgun manufacturers offer revolvers in their catalogues because very few specialize in that kind of handgun. The German Korth and French Manurhin companies are celebrated for the fine quality and originality of their designs, but some of the others are simply copying, or slightly modifying, the most renowned American 'wheel-guns', especially Colt and S&W models.

The Spanish manufacturers Llama and Astra include in their catalogues entire families of revolvers based on the above mentioned 'adaptation' method; these guns, essentially differing between them in barrel lengths, type of sights, construction and finish, are averagely as good as their models, principally S&W. But most use some interesting features or mix characteristics of different original American guns, such as the little Astra selected here as the archetype of the whole system.

At first sight, the Astra Model 680 seems to be just a copy of the legendary S&W Chief's Special, except for some external details such as the cylindrical barrel (conical on the Chiefs), the full underlug protecting the ejector rod, and the typical 'broken' shape of the rear part of the trigger guard. A second look at the Spanish gun shows another detail, one of great importance: it is a six-shot, the drawback of this upgraded capacity being that the locking notches of the cylinder are, contrary to the Chief's Special, not positioned between the chambers but exactly where the cylinder walls are the thinnest.

When cocking the hammer one will discover another main difference: no hammer nose (firing pin), but a flat hammer front, the floating firing pin being inside the frame as in the Charter Arms, some Colts and the Rugers. And finally, if the cylinder lock and the entire mechanism are identical with the S&W design, the adjustable mainspring is entirely original, due to the ingenious ring placed in the handle frame. The little Spanish 'snubby' was extensively tested with different types of ammunition, including two specially made for the law enforcement community (obviously the revolver is a back-up for deep concealment, not a target shooting weapon): Geco Syntox 38Spl 158gr SJFN and Fiocchi 38Spl +P Leadless 125gr SJSP. Other ammo used were different Samson loads and specially hand-loaded H&N 148gr WC plastic-coated bullets with Winchester small pistol primers and 2.6gr of French SNPE Ba10 powder. The latter gave the better groups at 15m (which is a



The little Astra, right-hand view; very much like the S&W Chief's Special, with some slight differences.

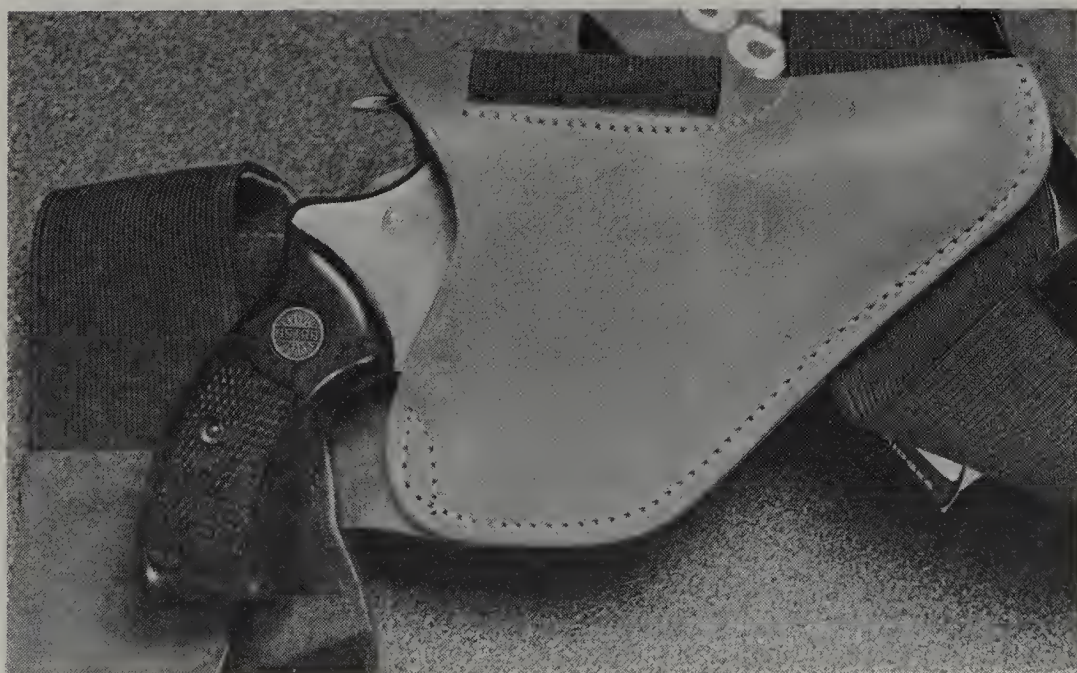


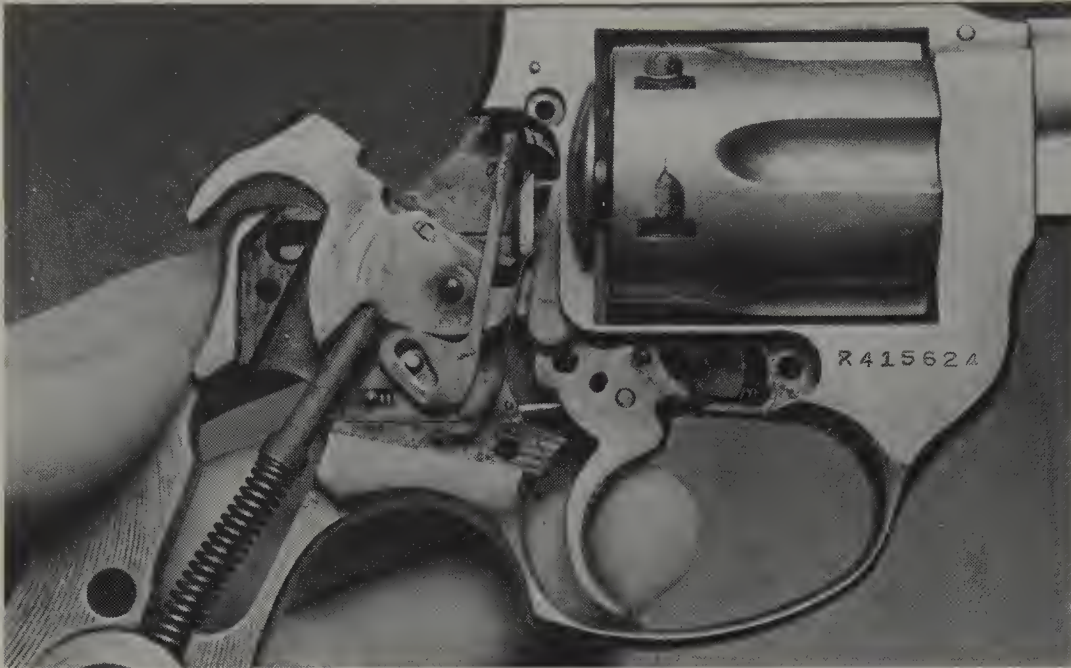
The fixed sights are good, but the sample gun was shooting too high, and this is not easy to correct.



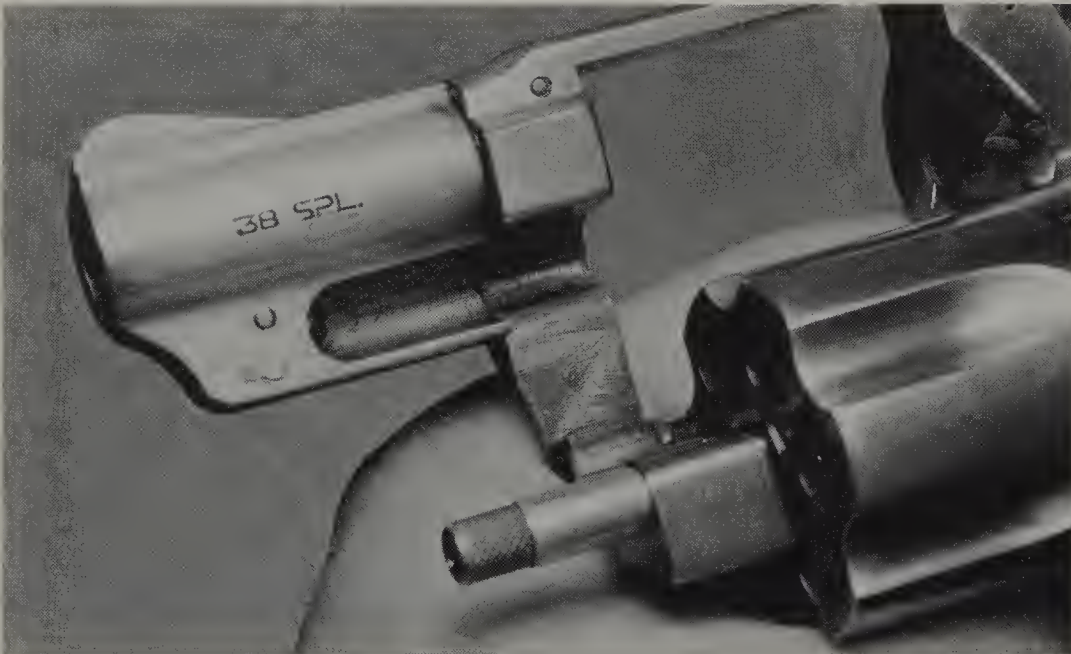
Left-hand view: cocked, the hammer shows no nose, the floating firing pin being placed inside the frame.

This holster, to be worn on the calf, is specially made by Astra for its little revolver.

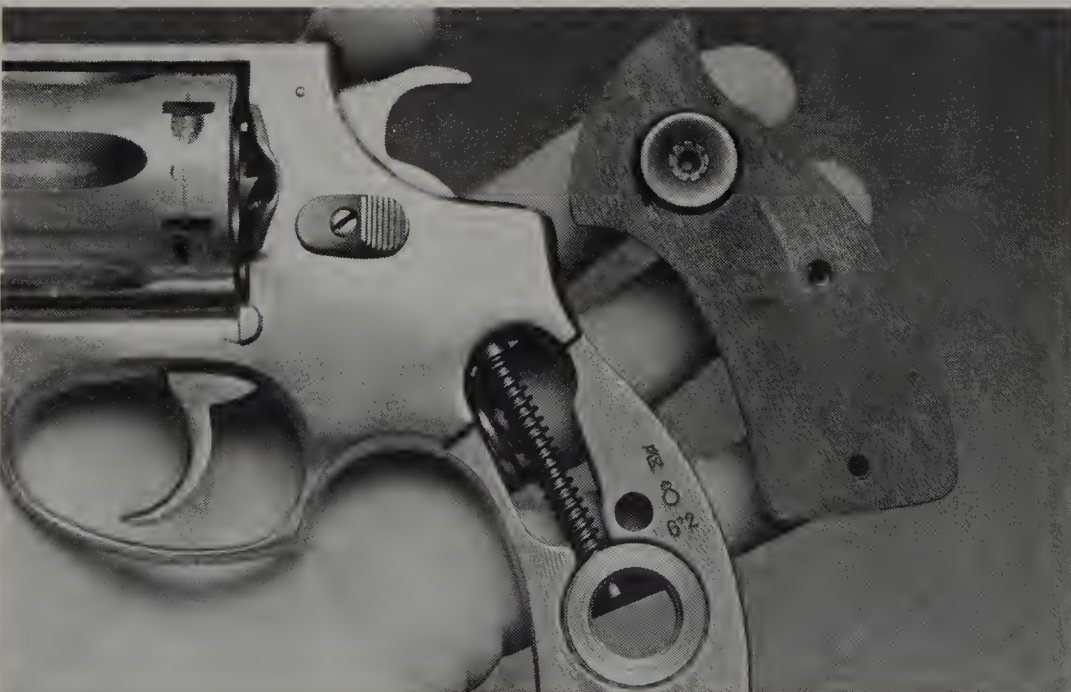




The mechanism is largely identical with the S&W, except for the mainspring.



One interesting feature is the full underlug protecting the ejector rod and adding some weight to the nose of the 'snubby'.



The ingenious ring system enables adjustment to the tension of the mainspring.

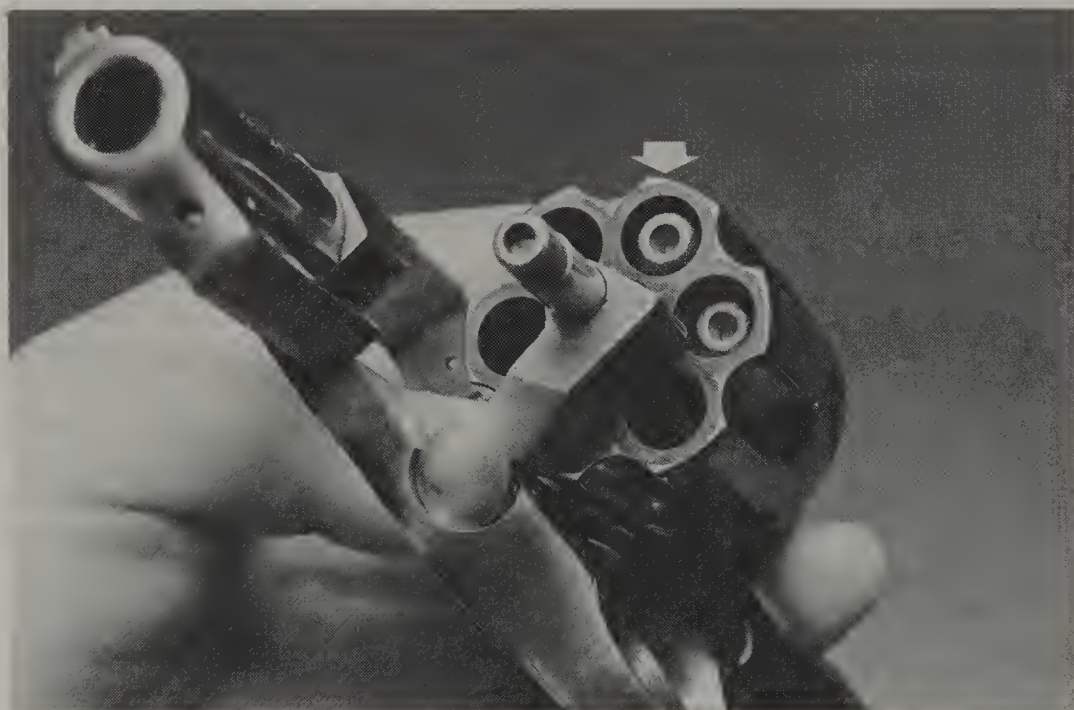
very long distance for a 2in barrel, and more of an accuracy test than a realistic combat shooting situation), a very good average of 74mm × 50 on five shots; more problematic was the fact that our sample gun was shooting too high with every kind of ammo, and this cannot be easily corrected on a handgun with fixed sights.

I'd like also to draw attention to one particular point: some 357 Magnum cartridges with flat nose are just short enough to be inserted in the chambers and the cylinder WILL turn; it is strongly recommended not to fire such powerful ammo in this kind of weapon, sturdy and robust though it seems to be.

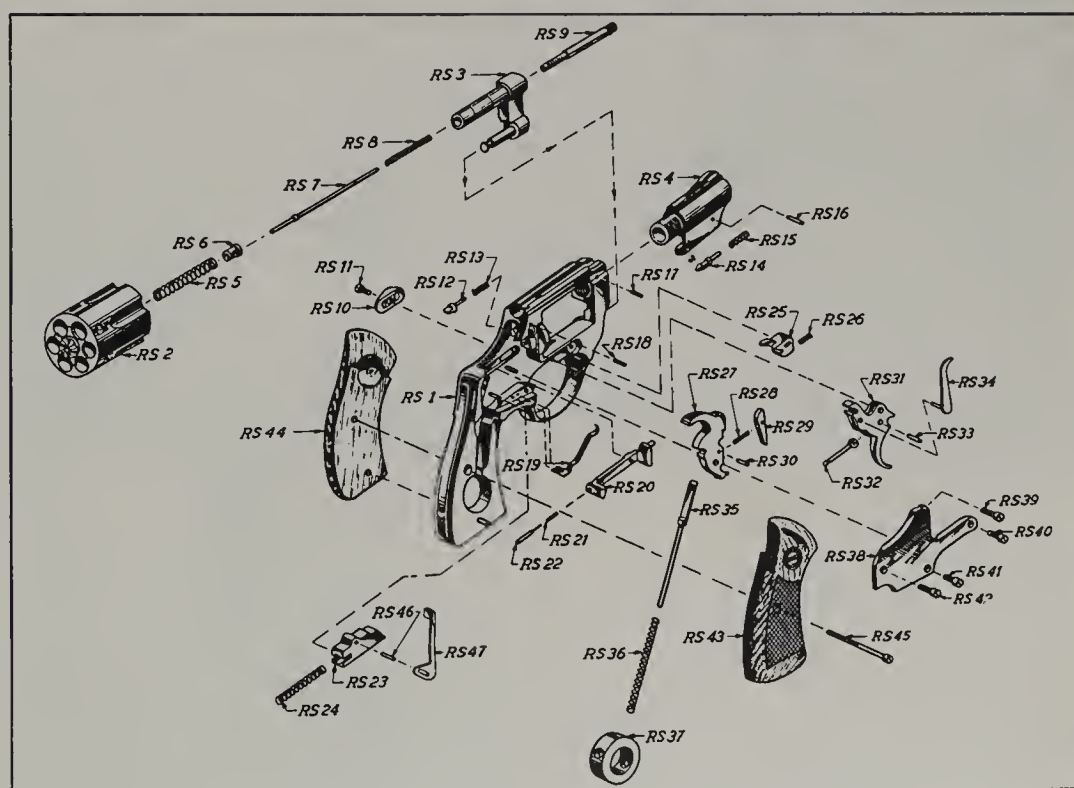
Astra offer also a full line of holsters, and one is especially interesting to carry the little 680 revolver; it is worn on the

calf, on the outside of the strong leg, upside down, the gun being maintained by its trigger guard and an elastic band. The two adjustable straps are fixed by velcro and, for the draw, the wearer has to kneel on his strong leg, and the handle of the gun is then good position to be gripped by his strong hand; this way of carrying a back-up or deep concealment gun is really convenient, for example, a female officer wearing a long skirt or evening dress, or trousers with wide legs. But I would advise the user of this kind of little revolver to have the hammer bobbed to reduce or eliminate snagging in clothes. Whatever mode of carrying is adopted the 2in barrel makes a purely close-range defence weapon, always to be used in double-action.

Some flat nose 357 Magnum cartridges (here a Nevins, beside an IMI Samson 38Spl for comparison) can be fully inserted in the cylinder; such ammo should never be used in this gun.



Exploded view of the Astra Model 680.



Beretta 84BB

Type: double-action semi-automatic pistol.

Maker: Pietro Beretta SpA, Gardone val Trompia (Brescia), Italy.

Calibre: 9mm Short (-380 ACP).

Overall length: 172mm, 6.77in.

Barrel length: 98mm, 3.86in.

Weight, empty: 660gm, 23.3oz.

Magazine capacity: 13+1.

Construction: blued steel/anodised alloy, fixed sights.

The 84BB is one of the newest examples of the Beretta 'Series 81' personal defence pistols, which has included the original Models 81 and 84 (in 7.65mm Auto and 9mm Short respectively) and the similar, but newer 81BB and 84BB with large-capacity magazines and firing-pin locks. The models 82BB and 85BB are identical with the 81BB and 84BB respectively, but have single-row magazines (9+1 and 8+1) and non-reversible safety catches. The Model 87BB is a .22 Long Rifle training/sport pistol.

The Beretta 84BB is a typical double-action European-style personal defence pistol, drawing much of its inspiration from the original Walther Polizei-Pistole. It is a very elegant design, with a rounded trigger guard – facilitating holstering – and a cut-away blued steel slide so typical of its manufacturer. The frame is an anodised aluminium alloy. Among the best features is the ambidexterous safety catch, perhaps a little inconveniently placed at the rear of the grip but easy to apply and reset. The magazine catch is a reversible crossbolt behind the trigger guard, while the slide-stop is inset at the top of the left grip. A left-handed firer can release the slide-stop with the trigger finger but, as the catch is not truly ambidexterous, must change his handgrip.

In the absence of a de-cocking system, lowering the hammer onto a loaded chamber should be exercised with care – particularly on the obsolescent Model 84, which has no firing-pin lock. Once the hammer has been lowered, the slide can be locked by pushing the twin manual safety levers (on the rear of the frame above the grip) upward to cover the red dot on the slide. A firing-pin safety lever on the 84BB, sharing the hammer spindle, prevents the firing pin reaching the primer of the chambered round except during the final stages of the trigger pull. The Beretta pin-lock is not as substantial as some rival designs, but appears durable and efficient enough for its task.

Field-stripping is comparatively simple. Once the gun has been unloaded, and the chamber checked, the dismantling button on the left side of the frame must be depressed while simultaneously rotating the dismantling lever (on the

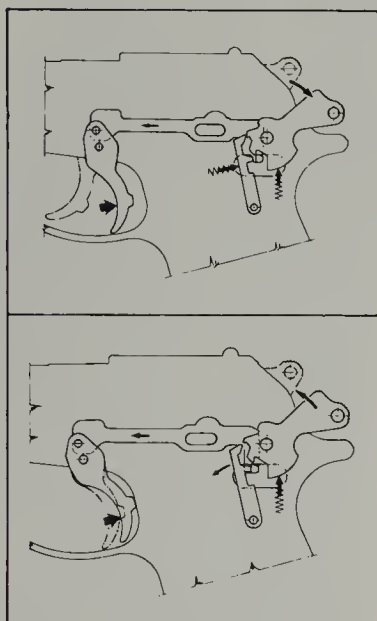
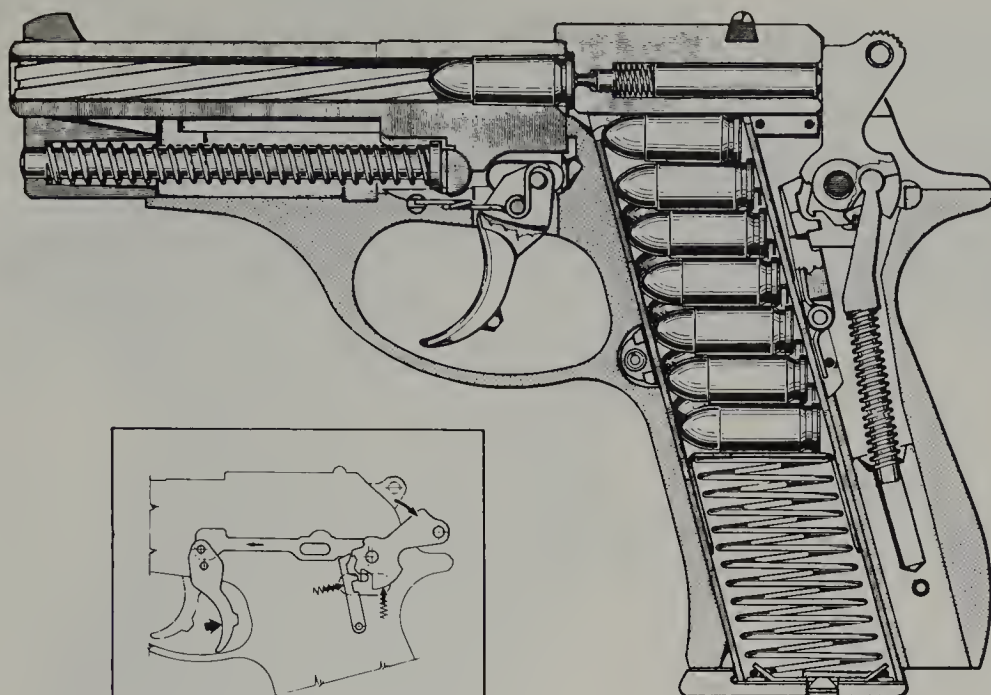
right) downward. The slide, barrel and spring assembly can be pulled forward and off the frame. Once the recoil spring and its guide rod has been removed, the barrel can be detached for inspection. Reassembly is the reverse of dismantling, care being necessary to ensure that the barrel is replaced properly in the slide, the extractor (which doubles as a loaded-chamber indicator) is correctly positioned, and the head of the recoil-spring guide rod is properly centred below the breech.

The 84BB has a reasonable trigger system, both pulls being a little stiff on the test gun (the double action being 7kg, 15.4lb) though travel and break-points are quite acceptable. Owing to the low power of the 9mm Short cartridge, recoil is comparatively light and the Beretta is eminently controllable. This is particularly important owing to the poor man-stopping qualities of the cartridges which, unless loaded with jacketed hollow-point bullets, may require a rapid follow-up shot. The Beretta pistols are supplied with attractive smooth-finished wood grips with inset medallions, but the optional chequered plastic variety gives a better grip in conjunction with the grooved backstrap. This prevents the gun slipping in the firer's hand.

The fixed sights are adequate, and sufficiently well rounded to prevent undue snagging during a fast draw. The back sight can be driven across its dovetail to correct imperfections in lateral shot placement. The sample gun proved accurate enough at combat ranges, achieving group diameters of 12-15cm at 25 metres.

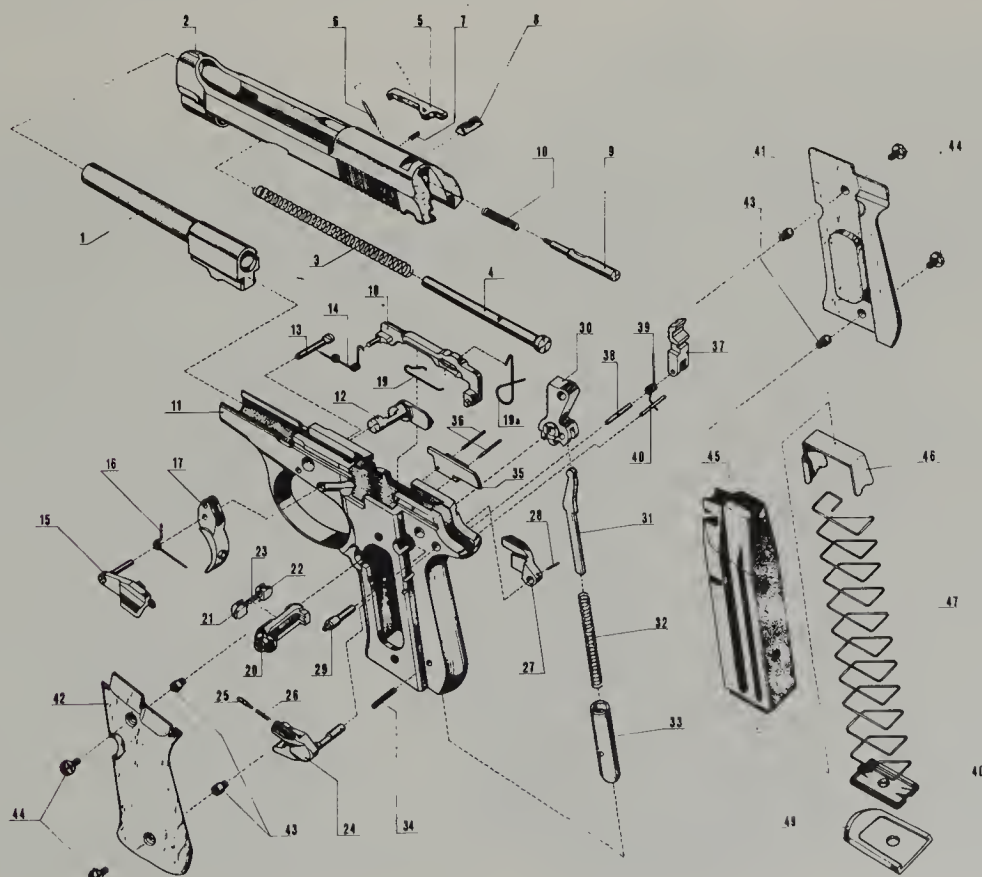
Owing to the thirteen-round magazine capacity, and the excellent manufacturing quality, the Beretta is among the best of its type. It is appreciably simpler than the CZ 83 (q.v.) and has found many champions as a 'back up' gun owing to its attractive combination of good firepower and comparatively small size.

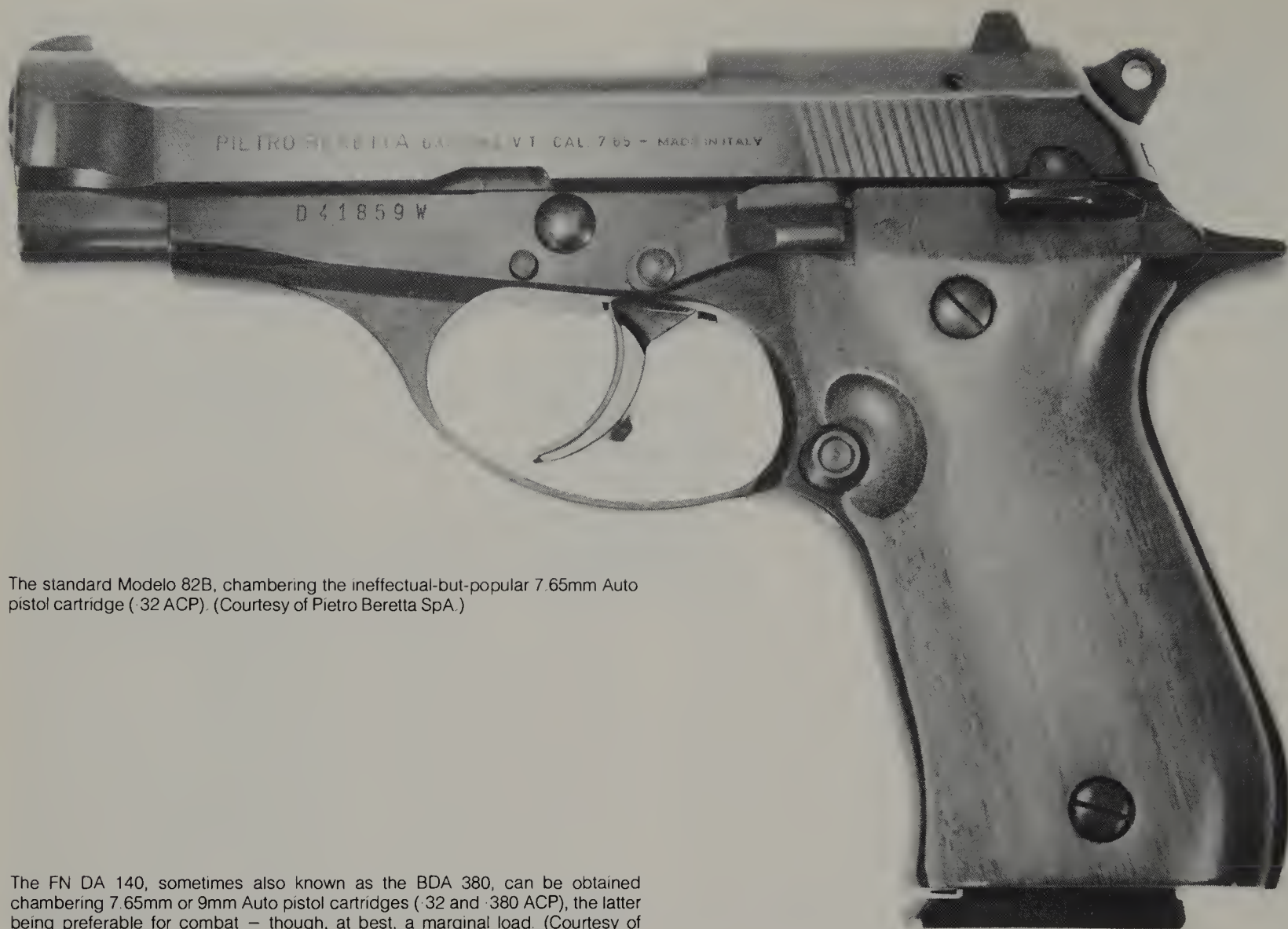
In addition to the Berettas, an adaptation of the basic design is made in Belgium by Fabrique Nationale (a company with a substantial shareholding in Beretta). The FN variant, the 140 DA, has a closed-top slide but is otherwise much the same as its Italian prototype apart from the slide-mounted safety lever. Advocates of FN's ribbed top closed-slide construction claim that it minimizes reflection compared with the Italian pattern, which is not proven, and – possibly more realistically – that it restricts the entry of dirt and dust into the mechanism. The 140 DA, known in the USA as the BDA 380, has replaced the venerable Mle 125 on the FN production line.



Key

- 1 Barrel
- 2 Slide
- 3 Recoil Spring
- 4 Recoil Spring Guide
- 5 Extractor
- 6 Extractor Pin
- 7 Extractor Spring
- 8 Rear Sight
- 9 Firing Pin
- 10 Firing Pin Spring
- 11 Frame
- 12 Takedown Latch
- 13 Takedown Latch Release Button
- 14 Trigger Spring
- 15 Slide Catch
- 16 Slide Catch Spring
- 17 Trigger
- 18 Trigger Bar
- 19 Trigger Bar Spring
- 19A Magazine Safety Spring
- 20 Magazine Release Button
- 21 Magazine Release Button Spring Bushing, Left
- 22 Magazine Release Button Spring Bushing, Right
- 23 Magazine Release Button Spring
- 24 Left Safety
- 25 Safety Spring Pin
- 26 Safety Spring
- 27 Right Safety
- 28 Safety Pin
- 29 Hammer Pin
- 30 Hammer
- 31 Hammer Spring Strut
- 32 Hammer Spring
- 33 Hammer Strut Guide
- 34 Hammer Strut Guide Pin
- 35 Ejector
- 36 Ejector Pin (2 Pieces)
- 37 Sear
- 38 Sear Pin
- 39 Sear Spring
- 40 Sear Spring Pin
- 41 Right Grip
- 42 Left Grip
- 43 Grip Bushing (4 Pieces)
- 44 Grip Screw (4 Pieces)
- 45 Magazine Box
- 46 Magazine Follower
- 47 Magazine Spring
- 48 Magazine Plate
- 49 Magazine Bottom





The standard Modelo 82B, chambering the ineffectual-but-popular 7.65mm Auto pistol cartridge (.32 ACP). (Courtesy of Pietro Beretta SpA.)



The FN DA 140, sometimes also known as the BDA 380, can be obtained chambering 7.65mm or 9mm Auto pistol cartridges (.32 and .380 ACP), the latter being preferable for combat — though, at best, a marginal load. (Courtesy of Fabrique Nationale.)

Beretta 92F/M-9

Type: double-action semi-automatic pistol or double-action only (self-cocking) semi-automatic pistol.

Maker: Pietro Beretta SpA, Gardone val Trompia (Brescia), Italy and Beretta USA, Accokeek, MD.

Calibre: 9×19mm, .40 S&W.

Overall length: 219.71mm, 8.5in.

Barrel length: 124mm, 4.9in.

Weight, empty: 961gm, 33.9oz.

Magazine capacity: 15+1.

Construction: blued steel with alloy frame or stainless steel with alloy frame, both with fixed sights.

The Beretta 92F or, as it is known in US military parlance, the M-9, has been subjected to various criticisms much of it unjustified. Many fans of the .45 auto have decried the M-9's adoption by the US armed forces, while critics have claimed that the Beretta is a poor choice for police officers since street gang members practise grabbing the slide and manipulating the takedown lever while it's in an officer's hand. Even the 92's critics among military and law enforcement personnel admit, however, that almost all personnel shoot better with it than the autos or revolvers it has replaced.

One of the first things one notices when examining the 92F is its open slide, and there has been some justified criticism of this feature by military personnel who served in the Persian Gulf War and found that sand could get into the action. For most combat usage, however, this should not really prove a problem. The 92F uses a locked breech system similar to the Walther P-38, with two lateral 'wings' which lock the barrel to the slide until they are pushed down into the frame. There has been some concern about

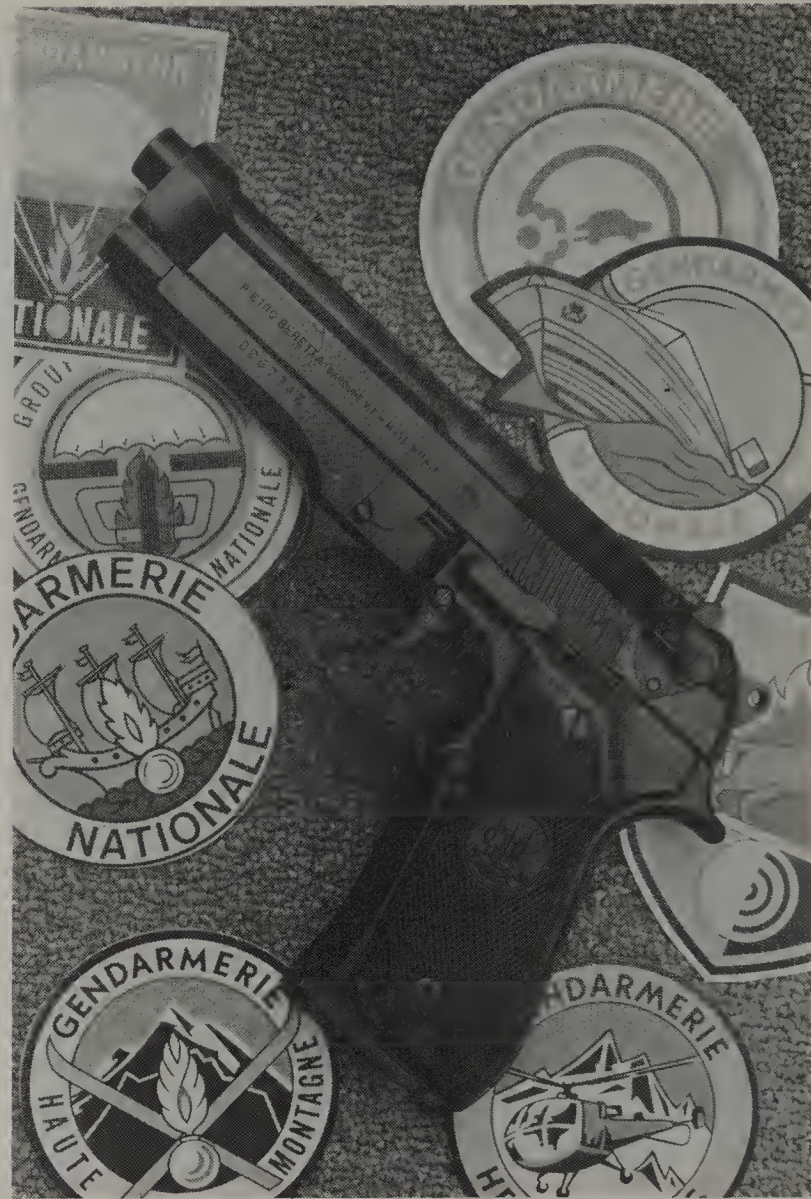
the Beretta since a few M-9s have suffered fractured slides while in use. At least some of these cases occurred when special operations troops were using the Beretta in non-standard situations or with non-standard ammo; however, it was still a matter of concern and the military at one point had a regulation that M-9s had to be called in for inspection after 1,000 rounds had been fired. The addition of a small pin to catch the slide should a fracture occur has negated the need for such inspections and few really view this as a problem with the Beretta any longer.

Far more shooters dislike the 92F's size, finding it a bulky handgun to handle and carry. Personally, I am normally sensitive to large grips, yet I find the 92F's comfortable. I have also trained female military and police personnel on the Beretta and most found it more comfortable than many other autos, though admittedly men or women with small hands will probably not like the 92F. Its size definitely does not make it a good concealment arm, though it certainly conceals as well as most other large autos or revolvers. I measured the 92F's grip diameter in comparison with a Colt Government Model and found the Beretta's grip is actually only one-tenth of an inch greater despite its double column magazine.

The Beretta incorporates an ambidextrous hammer drop safety which separates the firing pin from the hammer, then safely lowers the hammer, while interrupting the connection between hammer and sear. There is also an automatic firing-pin safety which prevents forward movement of the firing pin unless the trigger is pulled all the way back. I like this safety system since it allows the safety to be applied before chambering a round, thus rendering the pistol safe during that period when a round is first chambered. This type of safety also has the advantage for police officers or



The Beretta 92 strips for maintenance very quickly and easily.



even civilians that if carried in the 'on' position of possibly keeping an assailant who snatches the weapon from being able to fire it. There have been instances of police officers being saved when carrying a Beretta or S&W auto using this type of safety. On the other hand, if one does carry the Beretta with the safety applied one will have to practise flicking it up during the draw. On the version of the 92F adopted by France's Gendarmerie Nationale, the safety cannot be carried in the on position as it is designed to return to the off position when released.

For me at least, the slide release is difficult to reach without moving the grip position slightly, but on the plus side it is easy to manipulate without undue thumb strain. The disassembly lever is easily rotated after the slide has been locked back and the latch release button is depressed. This system is the one which critics claim allows the weapon to be grabbed by an assailant and 'disassembled' during a struggle. Of course, should the user of the Beretta choose to pull the trigger the attacker is the one that will be 'disassembled'. I do find the Beretta one of the easiest of pistols to field strip for maintenance. I timed myself on disassembly and found that I could do it within 18 seconds even though I had not stripped the pistol in almost six

months. The magazine release is located on the frame behind the base of the trigger guard and is changeable for left-hand usage.

One excellent design feature of the 92F is the feed system which positions the magazine so that cartridges enter the chamber without needing a true feed ramp, thus enhancing reliability. My experience with the 92 is that it is highly reliable, too.

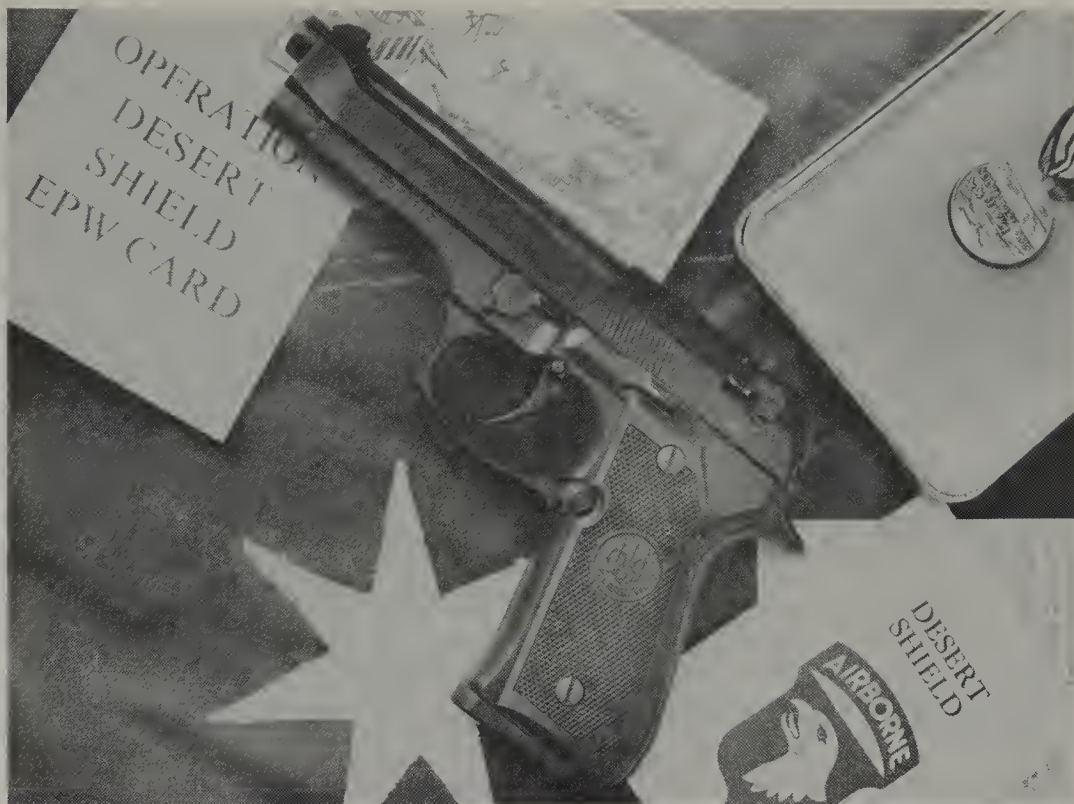
Normally, I'm not much of a fan of cushions or protrusions on the magazine floorplate of pistols, but I like the pad on the base of the 92F magazine. The lanyard ring at the base of the grip protrudes, but due to this magazine pad there is little tendency for the heel of the hand to hit it during rapid magazine changes.

Double-action trigger pull on my Beretta is very heavy and quite long. The single-action pull runs to almost 7 pounds but is crisp. For a pistol used so much by the military and police, the relatively heavy trigger pulls are, in actuality, almost considered additional safeties by many.

Although I've done extensive shooting with the 92F and the M-9, and have found the pistol above average both on accuracy and reliability, I decided to test the Beretta somewhat differently for this evaluation. Since this is a

Far left: The author fired this 5-shot group when testing the Beretta 92 with Laser Products light in darkness. Note also the extension magazine for special operations use in place.

Left: Among those adopting the Beretta 92 has been France's Gendarmerie Nationale.



The M9 has now been tested in action during the Panama Invasion and the Gulf War.

The slide-mounted hammer drop safety allows a round to be chambered with the safety already applied which greatly decreases the chance of an accidental discharge.



pistol which sees substantial use by military and police special operations units and since my Beretta is often used with a Laser Products light system installed, I chose to test the 92F in complete darkness using the light. I set up a scenario in a tyre house which necessitated that I enter and quickly score five hits on a 'terrorist' target without hitting the hostage. Shots were taken at about 25 feet in total darkness except for the light mounted beneath the Beretta's barrel. The accompanying photograph shows how well the Beretta performs in a situation requiring rapid, accurate handling. It did exceptionally well, placing the shots into under 2 inches.

Overall, I give the Beretta high marks as a service auto for military or police duty, or for civilian self-defence. I do not think it conceals as well as some of the more compact autos chambered for the 9mm, .40 S&W, or .45 acp round so for a purely concealment arm I would not choose the Beretta. With stainless steel and double-action only options available, this is an even more versatile pistol, one which will continue to be popular with law enforcement agencies since it has the cachet of approval of the US armed forces as well as foreign agencies such as France's Gendarmerie Nationale.

Beretta 93R

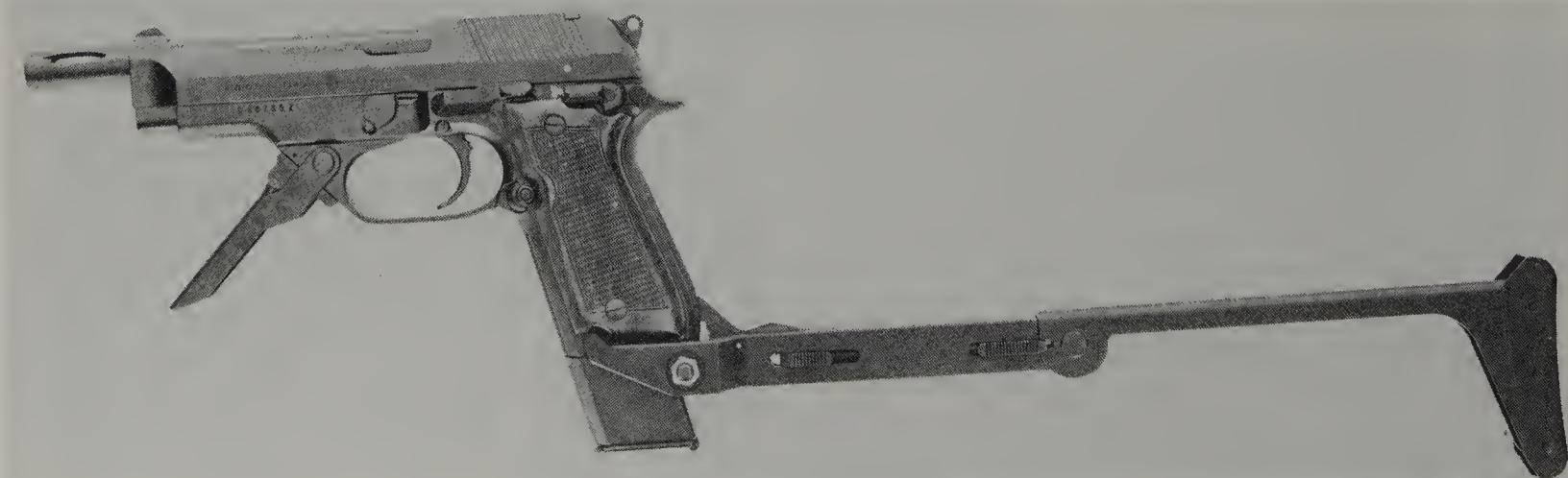
Type: semi-auto pistol with full-auto three-shots burst capacity.
Maker: Pietro Beretta SpA, Gardone Val Trompia (Brescia), Italy.
Calibre: 9mm Parabellum.
Overall length: 248mm, 9.7in.
Barrel length: 125mm + 31mm (unrifled compensator/flash hider), 4.92in + 1.2in.
Weight, empty: 1150gm + 270gm (collapsible shoulder stock), 40.25oz + 9.45oz.
Magazine capacity: 20+1.
Construction: blued steel, fixed sights.

Two purely 'automatic' pistols are included by exception in this book, the Glock Model 18 and the Beretta 93R, since they deserve, better than some mini-machine pistols such as the Ingram, Mini- and Micro-UZI, Polish Wz63, Czech VZ61 Skorpion, the name of being strictly 'handguns'.

There are some other pistols of that kind, such as the small-bore Trejo 'Rafaga', Soviet Stechkin, Heckler & Koch VP70, or even pre-war Mauser Schnellfeuer and its Spanish copy made by Astra. But all these have some drawbacks due to their age (Astra and Mauser have grip and balance making them much more useful in semi-auto at longer distance, even with their shoulder stock attached); their concept (VP70 will not shoot, either in semi-auto or three-shots bursts, without its shoulder stock; the Stechkin is not really controllable without the stock); or their calibre (Trejo Rafaga only exists in .22LR, .32ACP and .380ACP, its efficiency relying on saturation). All these guns have, like the Glock and the Beretta, a selector enabling them to fire either in semi-auto or full-auto (some in three-shot bursts only). Except for assassination – which is NOT the subject of this book – a 'full-auto only' capacity would restrict the user to a too small number of missions needing defensive suppressive fire only; the selector allows the wearer to use the pistol, most of the time, as a standard gun, switching to full-auto capacity only when needed.

The Beretta 93 R (for 'Rassica': burst in Italian), has a lot of external similarities to the Model 92, making it undoubt-

edly a member of the Beretta family; internally, it uses the same locking/unlocking system by lateral wings, and its field stripping is also identical. External and internal (mechanical) differences are, nevertheless, also obvious. Dimensions and weight are respectively larger and heavier (compare technical sheet to the Beretta 92); ingenious collapsible forehand grip articulated on the trigger guard and locked in both positions; two holes for the shoulder stock locking system (one under the butt and the other on the left side of grip's frame); very large trigger guard, necessary when the forehand grip is used, the thumb of the weak hand being positioned inside the trigger guard; selector, somewhat similar to a standard manual safety with two positions, marked with one white dot (on the slide, up position) for the semi-auto mode, and with three red dots (on the frame, down position) for the full-auto; manual safety with two positions, 'off' (up, exposing one red dot) and 'on' (down, exposing one white dot), placed behind the selector and using the same axle; wide right grip plate, covering the burst control mechanism; 20-shot oversize magazine, allowing seven bursts if an additional cartridge is chambered; its lower part protrudes from the grip; shoulder stock, collapsible only when detached from the gun, making it impossible to carry the pistol with the stock on; mechanism working in single-action only and, consequently, no decocking lever on the slide; the carrying mode must therefore be selected between 'condition one' (cocked and locked) with the drawback of a very uneasy manual safety to move 'up' to fire, or 'condition three' (hammer down and no cartridge chambered) with the drawback of a very heavily spring-loaded slide to be moved back to chamber the first round prior to shooting, and (but this is less important) a last burst of two shots only if used in auto capacity; the three-shot burst mechanism, placed on the right side under the grip plate. Its main component is a spring-loaded vertical bar with six teeth, the upper three of which being forced down one by one by the movement of the slide, the three lower ones being caught by the spring one by one to prevent the bar moving up again; the vertical bar is articulated on the trigger bar and, after three shots, this



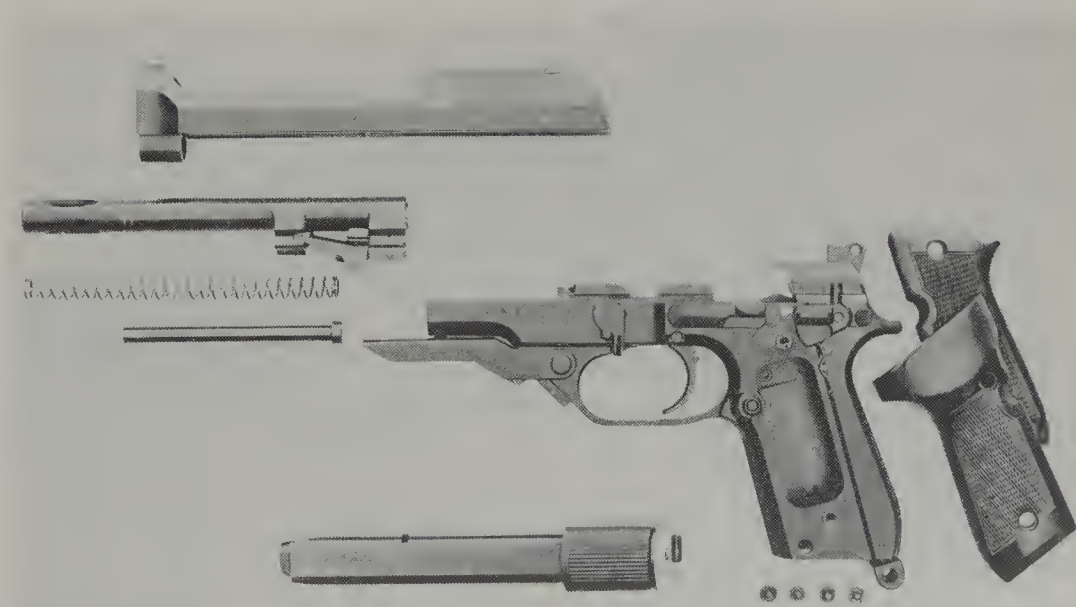
Right-hand view, without shoulder stock and with forehand grip collapsed; this would be the configuration when using the gun in semi-auto mode. Note the extended 20-shot magazine protruding from the grip, and the very large trigger guard in which to place the thumb of the weak hand when using the forehand grip.



The pistol with the collapsible shoulder stock, cleaning rods, and spare magazine. Note the two holes for the axles of the shoulder stock.



Field stripped and grip plates removed: clearly a Beretta with differences. Note the obvious absence of decocking lever on the slide.



Beretta 93R, left-hand view, complete with shoulder stock mounted and forehand grip extended, to use in automatic mode; the selector is on 'full' (three dots on the frame).



trigger bar has gone down far enough to prevent it separating the sear and the hammer, and the trigger has to be released to enable the entire system to be re-aligned before another burst.

With some friends who specialize in special shooting techniques for special weapons, I had some hundreds of cartridges passing through the Beretta 93R, with and without its shoulder stock, either in semi-auto or full-auto mode. The reliability of the gun is absolutely perfect in every respect: no malfunction of any kind was observed. The rate is impressive in full-auto: 1,150 shots/minute, giving the impression of a single shot for every burst, the three empty brass cases going literally out in one package. Accuracy is fabulous in semi-auto, especially with the stock (for 30 to 50m shots), although this is too short for a normal 'rifle' stance and demanding a much more 'compact' position, both hands pulling the gun into the shooter's shoulder, but who needs a handgun of that size with a really obtrusive stock when you can use a police carbine giving accuracy for much longer shots for same or better calibre?

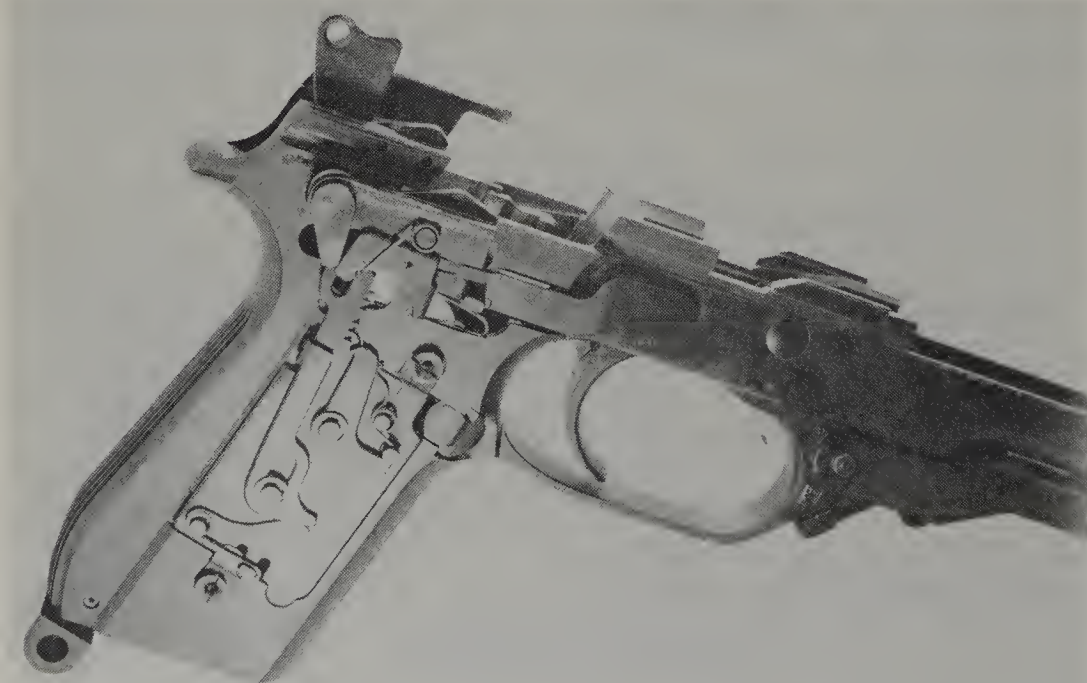
I was unable, although one of my 'assistants' succeeded very impressively up to 10m, to keep three shots into a man's silhouette at any distance without the stock; with the stock on, I had to go closer and closer to 5m to have all three rounds in the silhouette, in a pure vertical row showing the lateral efficiency of the flash hider/compensator (I was surprised by the concept: one of the three slits is placed vertically UNDER, not OVER).

Well, the Beretta 93R was used in some European movies (directors are always searching for new 'exotic' guns for their action scenarios), but I can see nothing particularly interesting in it. It is absolutely impossible to be carried concealed or even (at least with the stock on) in an external holster. Uniformed personnel would preferably use, say, a Mini-UGI, a 9mm AUG Carbine or an H&K MP5 for the

special purposes the Beretta 93R is intended to fulfill. It's just a pure technical demonstration that the Italian manufacturer is able to conceive and construct such a gun. The Beretta 93R is half a pistol, half an MP and half a carbine; that makes one half too much.



Three-shot burst at 5m with the stock on, aiming three times at the same point; not the least lateral dispersion.



Close-up on the three-shot bursts mechanism. See text for explanation.

Browning Double Mode (BDM)

Type: double-action/double action only, semi-automatic pistol.
Maker: Browning, Morgan (Utah), USA.
Calibre: 9mm Parabellum.
Overall length: 200mm, 7.87in.
Barrel length: 120mm, 4.68in.
Weight, empty: 850gm, 29.75oz.
Magazine capacity: 15+1.
Construction: all-steel, adjustable sights.

Although presented as a purely American design, the Browning BDM undoubtedly retains some family links with the FN family, including external appearance and the way the main spring works very similarly to the BDA-9. The true originality of the BDM, as shown by its name, is that it can be fired in two different modes, the so-called 'pistol mode' (first shot in double-action, subsequent shots in single action), and the so-called 'revolver mode' (all shots in double-action). But what is the reason for such a double capacity?

The fierce argument among the experts centred on the choice between the 'cocked and locked' single-action pistol as being the most efficient, and the revolver as being the safest duty/defence handgun. Then came the double-action large capacity pistols, new favourites of many police departments in providing simultaneously more than twice the capacity of the revolver, easier and faster reloading, better concealability in plain clothes (including spare ammo in magazines as opposed to speed-loaders), a no-snagging decocked hammer on a safely chambered cartridge, and the safety of the double-action trigger-pull for the first shot, so avoiding accidental discharges reputedly common in stress situations with 'condition one' light trigger-pull single-action pistols. Not only European police forces, but more and more US agencies, including a number of federal agencies, replaced their revolvers with double-action pistols.

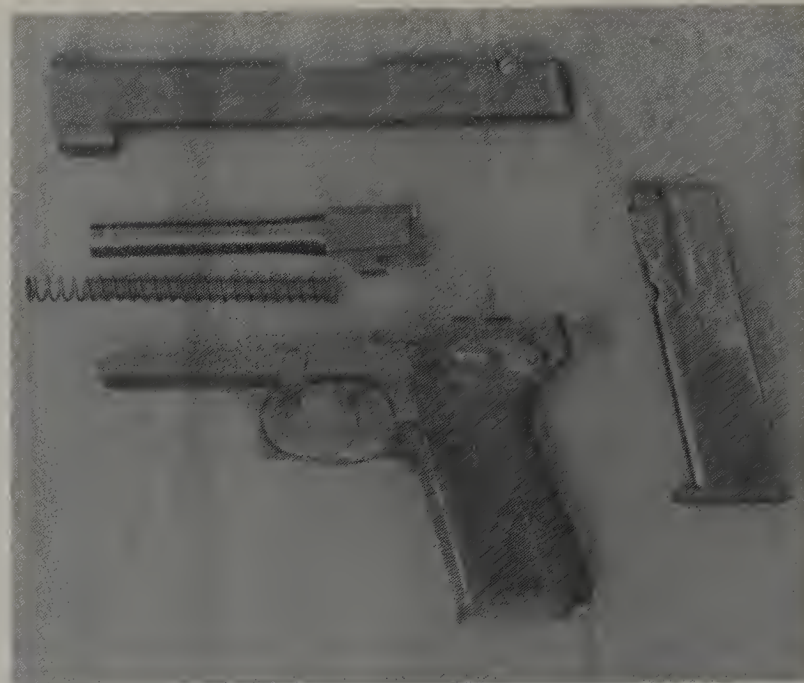
The major drawback of these double-action pistols is the difference in the trigger-pull and trigger course between the first, critical shot and subsequent shots all fired in single-action with the hammer recocked by the moving of the slide; at least the double-action revolvers have the great advantage of consistent pull and course for every shot. This drawback was first eliminated by two European designs, the German H&K P7 (with its cocking grip) and the Austrian Glock (with its 'safe-action' and semi-cocked firing pin); both guns are totally safe with a cartridge chambered, have no safety lever, button or other device to be manipulated before firing; the trigger has merely to be pulled to release the first shot, and every shot is fired with same pull and course.

If, for some unexplained reasons, the H&K didn't make a very large commercial success in the USA, especially on the law enforcement market, the Glock was a formidable breakthrough, bringing some headaches to the marketing divisions of every American gun maker. But every problem has its solution, and the designers of most of the major US manufacturers went back to their drawing-boards to find, finally, the 'revolver mode' or 'double-action only' pistols: in 1991-2 there appeared on the market S&W, IAI/AMT and Ruger pistols transformed to fire every shot in double-action, while Colt chose another way with the 'All American', and Browning introduced its 'Double Mode', allowing both a conventional 'first shot in DA, subsequent in SA' and the new 'double-action only' system.

Still using the classic short recoil, upper barrel/slide locking and underlug/cam unlocking systems, the new Browning departs from the old removable slide stop/dismantling pin, replaced by a non-removable pivoting dismantling lever on the left side of the frame and a separated slide stop whose small external post is located just above the left-side Browning logo on the rubber ergonomic wrap-around grip. Fully adjustable massive rear sight, low profile removable front sight, reversible magazine catch, and ambidextrous safety/decocking lever are the other features of the BDM. And last, but not least, the pivoting selector, which allows the gun to fire in either 'pistol' or 'revolver' mode; this selector is pivoted with the help of the magazine's floor plate (or any small coin).

After the gun has been loaded the decocking lever decocks the hammer in 'stand-by' (or 'semi-cocked') position; in 'pistol mode', the subsequent shots will be fired in single-action with the hammer fully cocked (trigger pull 1.8 to 2.5kg/4 to 5.5lb; 2.2kg/4.8lb on the sample gun) but, in 'revolver mode', the hammer will return to the 'stand-by' position after each shot (trigger pull 3.6 to 5.0kg/8 to 11lb; 4.5kg/10lb on the sample gun), allowing a consistent pull and course for every shot, like any double-action revolver. While decocking, the safety is automatically 'on', activating the hammer block and the firing-pin safety and preventing any accidental discharge.

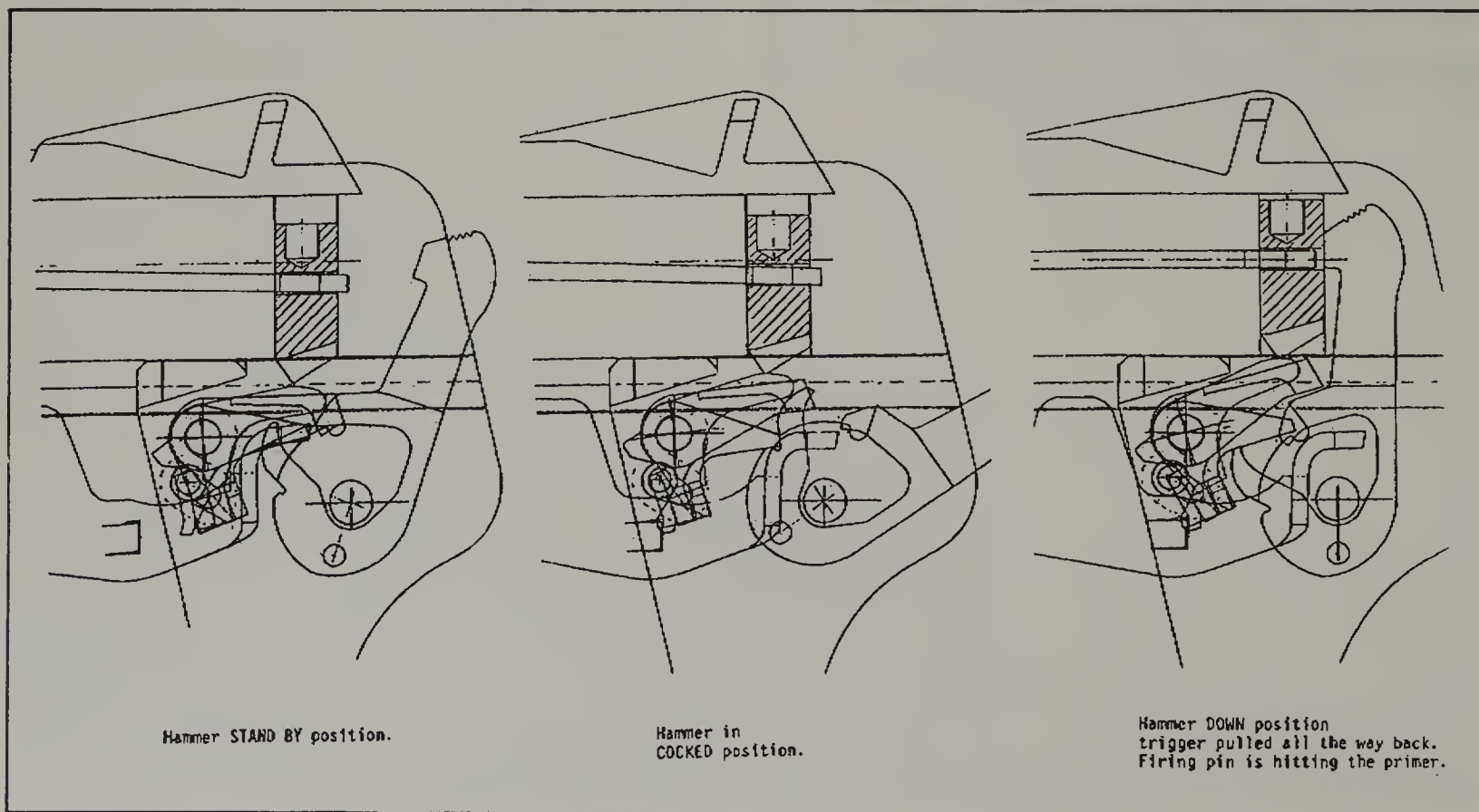
The sample gun tested was pre-production, but functioned flawlessly with different ammo, including hot FN and IMI Samson HP; accuracy is very good and handling is excellent because of the well-designed grip. Anyway, the new Browning gives its owner the choice between a conventional double-action pistol with two different pulls and courses, or the large capacity with the revolver's safety and consistency, for the price of a reasonably heavier and longer pull. The 'semi-cocked' hammer is a very good idea, already used in a different way by one of the BDM predecessors, the short-lived FN 'Fast Action', and improves significantly the action of the pistol, though not in the way the 'pre-cocked' firing pin of the Glock does it, and with a far longer trigger course. Will that be enough to beat the Glock in its own field?



Above: Right-hand view of the BDM; external appearance is still influenced by the old FN Hi-Power; note the protrusion of the magazine floor, which is used to pivot the selector (on the left side of the slide).

Right: Slide open, showing the ejector and the extractor, also acting as 'see and feel' chamber indicator.

Below: Technical drawing showing the three possible positions of the hammer and giving some idea of the sophisticated mechanism.



Browning GP Mle 35 (‘High-Power’)

Type: single-action semi-automatic pistol.

Maker: Fabrique Nationale SA, Herstal, Belgium.

Calibre: 9mm Parabellum (a few exist in 7.65mm Parabellum).

Overall length: 197mm, 7.76in.

Barrel length: 117mm, 4.61in.

Weight empty: 910gm, 32.1oz.

Magazine capacity: 13+1

Construction: all steel, fixed sights.

Numerous models of the basic HP35 exist or existed, including several made with special finishes for the US market. Recently all the existing models were upgraded to the new Mark III standards, but are all, except for the ‘Practical’, which is a purely domestic model, now made in Belgium but assembled in Portugal, and consequently are marked on the right side of the slide. The original military variant, no longer made, had a tangent-leaf back sight graduated to 500m and a noticeably higher front sight blade. The two older models still available are the ‘Vigilante’, once the military model after 1945 but noticeably upgraded with far better sights and an easy-to-operate ambidextrous safety both borrowed from the short-lived Mk II, and the ‘Sport’, with fully adjustable back sight and a high rectangular front sight. The Mk II was introduced in 1983, with a very good extended ambidextrous safety (later introduced on the current ‘Vigilante’, better sights than the original half-moon blade front sight, matt finish and neoprene grips to enhance handling. This model was discontinued in 1987. The current military model, the Mk III, includes all the modifications introduced in the Mk II, with some additional upgrading like the enlarged ejection port or a new slight re-shaping of the grip, the frame itself, and the slide. The current civilian model is the Mk IIIS (for ‘Safety’), which includes the extremely astute firing-pin safety introduced on the ‘Practical’ model, still proposed in the Browning European catalogue.

The legendary High-Power – or ‘Pistolet à Grande Puissance’ – was the last design of the greatest genius of them all, John M. Browning. Patents for what would become the most widely distributed military pistol of all time were sought as early as 1922, but perfection was only achieved some years later. However, even the first guns showed some of the features that were to become world-famous, including the large-capacity staggered double-row magazine. Only the external hammer was missing from the guns designed in 1922-3. Unfortunately, Browning died in 1926, leaving completion of the High Power to his pupil, Dieudonné Saive, who was later to design the FAL (light automatic rifle). By 1927, the High-Power was being illustrated in FN catalogues in a form very close to the final design.

Made for the Germans during the Second World War – as well as in Canada, for the Canadians, British and Chinese – the High-Power has since equipped almost every country in the Free World. It is still, for example, the official sidearm of the British Army and the SAS.

It is no surprise that Browning used short recoil principles on his last handgun, as this had been included in the first patents ever sought for his pistols (1897) and developed, through several intermediate stages, into the US Army’s M1911 Colt-Browning. The original intention was to reduce the shocks absorbed by the fabric of the gun with powerful cartridges, which could not be used safely with the fixed-barrel blowback system. Browning’s solution was to let the barrel and the slide, locked together, travel backwards before being separated by a downward move of the

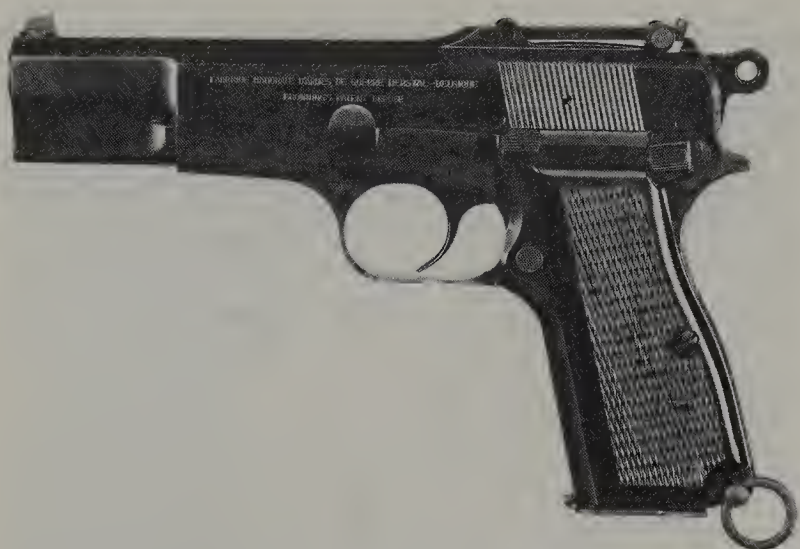
barrel, letting the slide reciprocate alone to complete the operating cycle. This slowed the separation sufficiently for the chamber pressure to drop to a safe level.

The principal objective of the High-Power seems to have been the adoption of 9mm Parabellum, smaller than the US .45 ACP, together with a large-capacity magazine. The High Power was the only mass-produced service pistol to successfully incorporate a detachable butt-mounted box magazine containing more than ten rounds until the S&W Model 59 appeared in 1971.

Browning apparently decided that the stirrup-like trigger system used in the M1911 Colt-Browning – and many of the earlier FN-Browning blowback designs – could not be used with so wide a magazine, though the subsequent example of the S&W Model 59 and the FÉG DA, among others, have proved that he was mistaken.

Comparing the High-Power with the Colt Government Model, Browning’s two classic handguns, the major differences are the suppression of the removable muzzle bushing, changes in the recoil spring system, the introduction of an unlocking ramp in place of the original articulated lug, a change in the mainspring, the elimination of the grip safety, and the addition of a magazine safety. Most importantly, the simple stirrup trigger was replaced by a much more sophisticated trigger bar/sear system. Unfortunately, the stirrup allows a plain trigger with a straight pull (and, incidentally, great adaptability), while the High-Power pattern has a lateral bar system with a pivoting trigger that gives a longer, less consistent pull. The FN-Browning mechanism is infinitely more complicated and, though usually regarded as exceptionally reliable, undeniably more fragile than the original Colt-Browning. In addition, the 9mm Parabellum cartridge is harder on the gun than the powerful-but-slow .45 ACP.

I have already fired more than 25,000 rounds through Hi-Powers, trusting my life to my own slightly customized gun. The HP was for long one of the most promising guns ‘from the box’, requiring only minor modifications to be fully ‘operational’; for example, the superfluous magazine’s safety, to be immediately removed, contributes to an undesirable trigger pull exceeding 6kg/13.2lb, and its removal reduces instantly the pull to a not outstanding but acceptable 4kg/8.8lb. The new sights and ambidextrous extended safety, introduced with the Mk II, are also great improvements on the previous models. The best choice for a combat pistol was previously the ‘Sport’ which could be customized as required due to its higher, very good front sight; it is now the ‘Practical’, introduced as a domestic modification in Belgium in October 1987 with an excellent squared front sight on ramp, re-introduction of the round hammer, excellent Pachmayr grips, bevelled magazine well, magazines equipped with Pachmayr bumper pads, and a completely new firing-pin safety (to be lately introduced on the Mk IIIS). This safety is made by flattening the rear part of the sear bar, this flattened part going into a recess of the



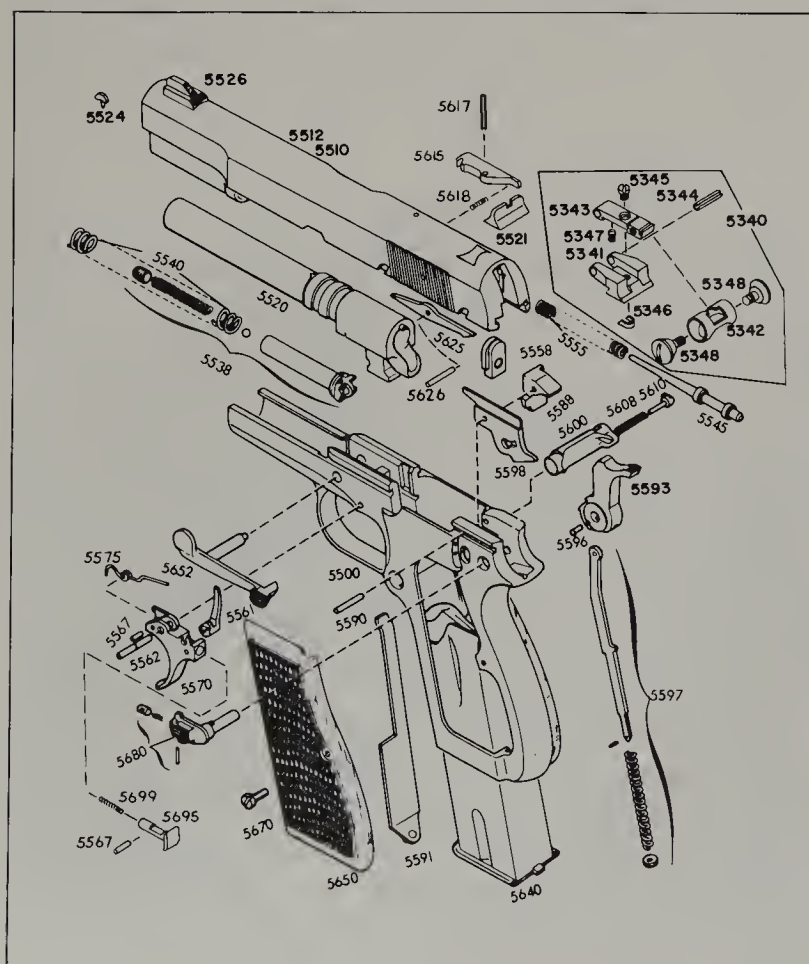
The 'Captain', a name applied to the military version of the High-Power in the early 1980s. Note the tangent-leaf back sight, which has no place on a combat handgun, and the lanyard ring. (Courtesy of Fabrique Nationale.)

firing pin and blocking the latter while the trigger is not pulled; the pull of the trigger forces the bar to go down to press the sear and leave the hammer, freeing the firing pin in the meantime.

Despite minor problems easily eliminated by customizing, and its capacity now largely superseded by new concepts such as the Glock, the High-Power is still an extremely accurate, reliable tool. It is certainly not purely coincidental that so many of its more recent rivals have borrowed so many of its features – or even, in some cases, its entire external appearance.



An exploded view of the High-Power. (Courtesy of Fabrique Nationale.)



Key

5500	Frame	5625	Sear Lever
5520	Barrel	5626	Sear Lever Pin
5598	Ejector	5590	Sear Pin
5615	Extractor	5591	Sear Spring with Button
5617	Extractor Pin	5340	Rear Sight Complete, Adjustable Sight Model
5618	Extractor Spring	5341	Rear Sight Base (A.S.M.)
5545	Firing Pin	5342	Sight Aperture—Rear (A.S.M.)
5555	Firing Pin Spring	5343	Sight Aperture Housing—Rear (A.S.M.)
5558	Firing Pin Retaining Plate	5344	Sight Aperture Housing Pin—Rear (A.S.M.)
5567	Trigger Spring Retaining Pin	5345	Sight Elevation Screw—Rear (A.S.M.)
5650	Grip Plate—Left—French Walnut	5346	Sight Elevation Screw Spring—Rear (A.S.M.)
5670	Grip Plate Screw	5347	Sight Elevation Spring—Rear (A.S.M.)
5593	Hammer (New Type)	5348	Sight Windage Screw—Rear (A.S.M.)
5597	Hammer Strut Assembly with Mainspring, Mainspring Support Pin, & Nut	5521	Sight—Rear
5596	Hammer Strut Pin	5524	Sight—Front
5640	Magazine Complete	5526	Sight—Front (A.S.M.)
5600	Magazine Latch	5510	Slide
5608	Magazine Latch Spring	5512	Slide (A.S.M.)
5610	Magazine Latch Spring Guide	5652	Slide Stop
5695	Magazine Safety	5570	Trigger
5699	Magazine Safety Spring	5561	Trigger Lever
5567	Magazine Safety Pin & Trigger Spring Pin	5562	Trigger Pin
5540	Recoil Spring	5575	Trigger Spring
5538	Recoil Spring Guide Assy. with Slide Stop Retaining Ball, Spring & Cap		
5680	Safety Assembly Complete		
5588	Sear		



The 'Vigilante' model of the military High-Power. The factory sights are not particularly good for combat handgunning, though the hole in the trigger reveals that the unnecessary magazine safety has already been removed.

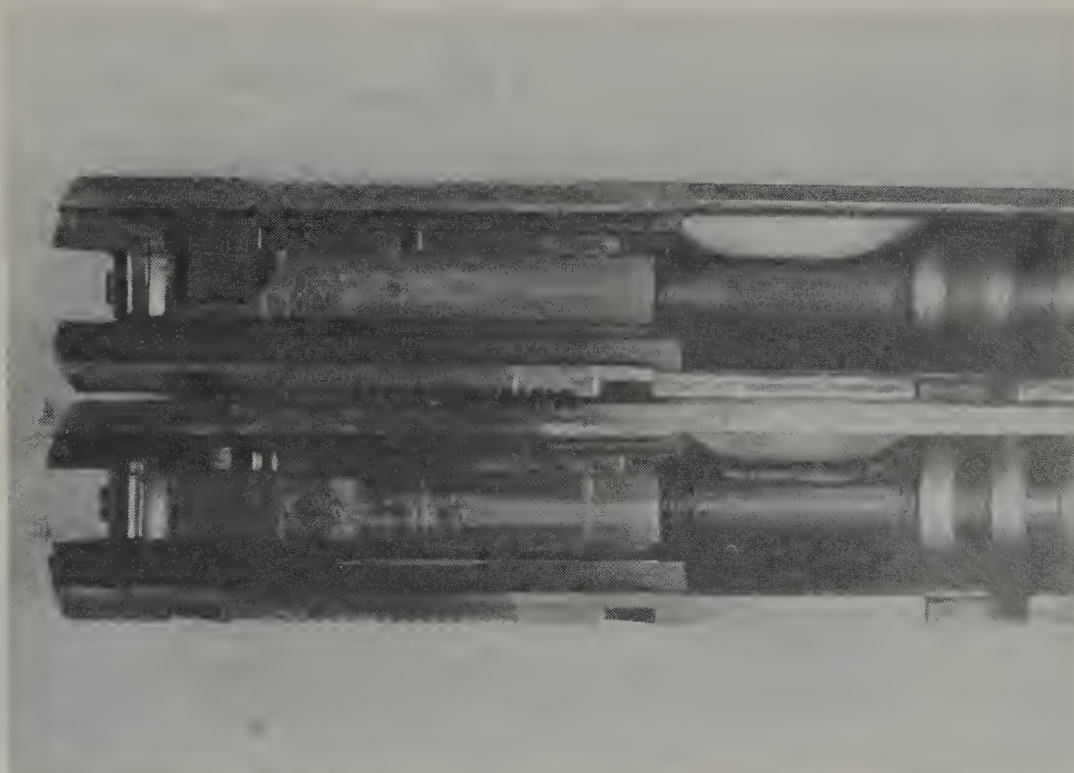
The new High-Power Mark 2, with revised sights, neoprene grips, and an ambidexterous manual safety – far better than its predecessor. (Courtesy of Fabrique Nationale.)

A three-quarter view of the Mark 2 High-Power, showing the shape of the new front sight and the squared notch of the back sight. (Courtesy of Fabrique Nationale.)





Left view of the 'Practical', the best combat High-Power available; note the extended safety (ambidextrous), the rounded hammer, the front sight, and the factory-delivered Pachmayr grips and magazine bumper pads.



Comparison between the slide of an old 'Vigilante' and the slide of the 'Practical' with the new sear bar and its flattened extended rear part blocking the firing pin.

Colt Model 2000 'All American'

Type: double action only, semi-automatic pistol.
Maker: Colt's Manufacturing Company, Hartford, Connecticut.
Calibre: 9mm Parabellum.
Overall length: 190mm, 7.50in.
Barrel length: 114.3mm, 4.50in.
Weight, empty: 822gm, 29oz.
Magazine capacity: 15+1.
Construction: carbon steel blue slide, electroless nickel-plated carbon steel barrel, polymer receiver.

Ever since it entered the field of automatics, the Colt company has always avoided the large capacity, to the point that the first ever reliable factory-made large capacity frame and magazine for the 1911A1 came from a foreign manufacturer, the Canadian Para-Ordnance; to the point that the 9 mil version of the same pistol uses a single column magazine with a 9 + 1 capacity!

One of the most spectacular results of the Colt company policy, centered for seventy years around the 'old reliable' 1911, was that with the arrival of the famous JSSAP, the manufacturer of the oldest and most famous service handgun in the world discovered that he had no way to compete with his contenders, the new official US sidearm having to be a 'double-action, 9 mil, with large capacity magazine'. Exactly the opposite characteristics of the previous 'Government'.

This kind of 'blind' policy was slightly modified by the very late (too late?) introduction of the 'Double Eagle' double-action pistol: in the meantime not only had a full line of domestic and foreign manufacturers literally invaded the US market with a large choice of models corresponding to the new enthusiasm for super-safe large-capacity 9 millimeter (and 40 S&W) pistols, but the new Colt had only one extra round in its 45ACP version, and the same capacity for the 9mm Parabellum, 38 Super and 10mm. Definitely, the 'Double Eagle' was not to be considered by the law enforcement community, and was no match for the 1911A1 itself when the purpose was personal defence or shooting competition! And some US manufacturers, such as S&W and IAI/AMT, had already introduced the brand-new concept of the supposed super-super safe 'double-action only' just to try to counter the tremendous success of the whole line of Glock pistols with their trigger pull consistent from the first to the last shot and a system very close to the so-called 'double-action only'.

The very last disaster, seeming to have sealed the fate of the Colt pistols, came when Doug Koenig won the 1990 IPSC World Shoot with a Springfield Armory/Tanfoglio in 9 millimeter upgraded to reach the major factor!

And then, suddenly, appeared the 'All American', so different from everything Colt had made previously that

every gun specialist was stunned. So surprised was, for example, Dick Metcalf, one of our most respected colleagues, that he wrote in the magazine *Shooting Times*, 'Revolutionary is an understatement!'. Well, revolutionary? Let's see after a close examination, which I was fortunate enough to make when Rich Mackney, Colt's Export Sales Manager, made a European tour in October 1991 to present to selected panels of specialists a pre-production sample of the new pistol. One of the excellent pictures from the press file, illustrating the field stripping of the gun, shows clearly its characteristics: ergonomic design of the whole frame, rotating barrel, detachable barrel bushing, true hammerless conception, cam block, integral sear/trigger assembly moving longitudinally, captive recoil spring with long guide. What is not apparent in the picture is the use of polymer for the whole receiver.

The reason why the 'All American' is so different from any Colt pistol so far is that it was entirely conceived by a free-lance designer, Reed Knight, with the help of the legendary Eugene Stoner. What I can say is that they seem to have perfectly succeeded in amalgamating old ideas already used on some European guns dating from the beginning of this century: for example, the rotating barrel is found on the Steyr 1912 and the sear/trigger system moving longitudinally on rollers to cock the firing pin before releasing it at the end of its course, was originally used on a whole series of pistols made and sold by the French *Manufacture d'Armes et des Cycles de Saint-Etienne* from 1914 to the sixties!

This said, I must admit that the gun is exceptionally well thought out, each element fitting perfectly with the others to make a special-looking but very well in-hand gun, naturally pointing on target on the draw, possibly because of the excellent shape of the grip, which is very similar to that of the Jericho, an Israeli-designed and Italian-made pistol which appeared in 1990 and whose superbly shaped grip is the best this author has ever experienced on a pistol.

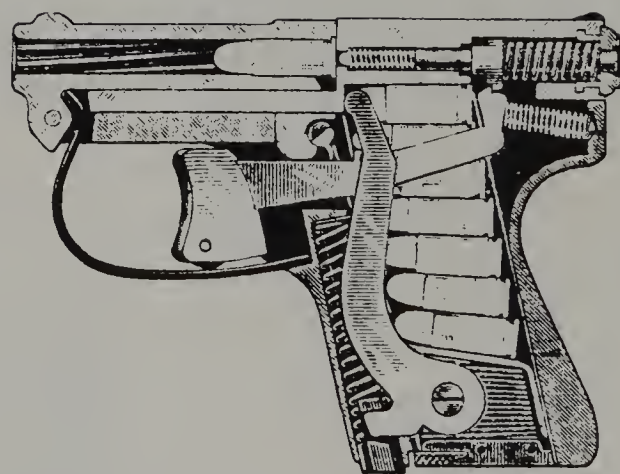
The actual test was very short: two or three magazines for each of one hundred enthusiasts impatiently waiting in a row. I shot my magazines, but also observed the gun in the hands of some top shooters, very experienced in IPSC competitions, and law enforcement instructors with extensive experience in debugging new guns. The 'All American' is very low on hand, which is a very good point for the control of the gun, especially on 'double taps', with a particularly slight muzzle flip, almost unnoticed by the shooters accustomed to using 9 mils.

The trigger system gives a special feeling with the surprising straight move of its non-pivoting trigger: the pull is extraordinarily smooth and consistent, and the weight, though not particularly light (4.5kg, 9.9lb), does not penalize the shooter since no special effort has to be made. One just has to pull the same weight from the start to the release of the firing pin, but the trigger has to be completely released before engaging the firing pin again to cock it for



Above: Left and right view of the 'All American'.

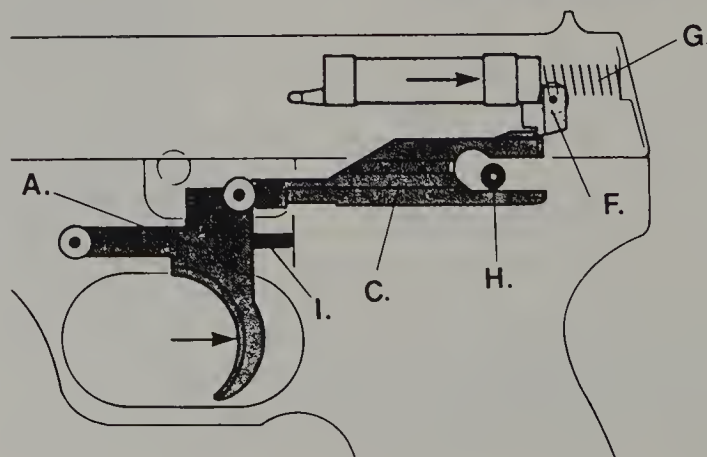
The first drawing is taken from a catalogue of the *Manufacture d'Armes et des Cycles de Saint-Etienne*, in the thirties; it shows a cut-away of the 6.35mm 'Le Français' pistol, with its unique sear/trigger system introduced in 1914. Compare it to the second drawing, coming from the technical documentation of the 'All American', to decide if the latter is definitely 'revolutionary'.



the next shot; this mode can be clearly defined as a 'double-action only', the firing pin being completely released after each shot and having to be completely cocked by the next trigger pull. In this way it is absolutely impossible to drop a shot accidentally and the temptation of cocking a double-action revolver before action is avoided.

Another special feature is the position of the slide stop lever, at the rear of the receiver, just where one would find the manual safety on a single-action pistol; I watched a couple of shooters stopping the gun almost at every shot by pushing the lever up unintentionally. Training with this pistol will have to take these peculiarities into account.

The magazine release button is reversible, and well situated in a recess of the grip plate; the gun is easy to field strip (the magazine too), but the magazine must be removed and the slide locked back, which is a good way to avoid accidental discharges by the inexperienced or inattentive user.

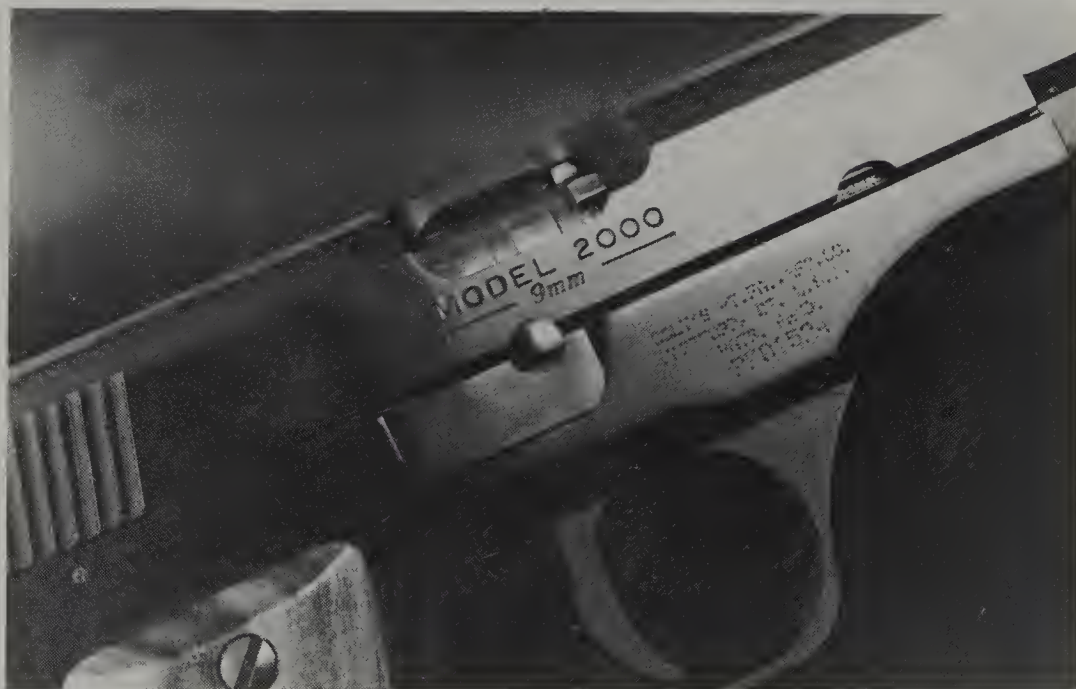


Model 2000 • All Double Action
Semiautomatic Pistol
Caliber: 9x19mm



The pistol is easily field stripped into eight parts, the magazine counting for one. This picture shows very clearly the lugs of the rotating barrel, the details of the cam block ensuring locking/unlocking in forcing the barrel to pivot, the captive return spring with its long guide, the detachable barrel bushing, the integral sear-trigger system with its rollers, the position of the slide stop, and the very special shape of the grip.

Above right: Rich Mackney, Colt Export Sales Manager, aiming with both eyes open, like any good IPSC shooter (which he is), in an indoor range near Brussels (Belgium), where one hundred shooters had the great privilege of handling and firing the 'Model 2000' in October 1991. See how the slide is very low on hand.

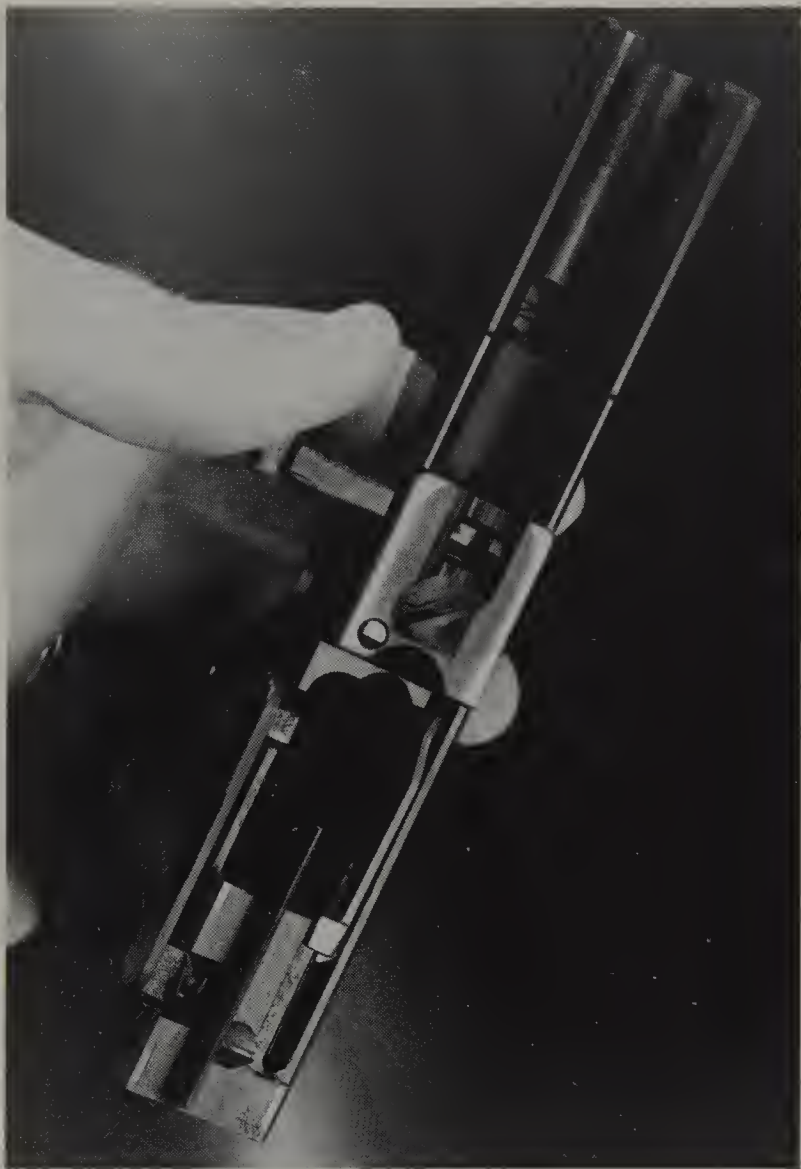


Right: The sample gun was pre-production, with wooden grip plates and very rough markings on the receiver.

The accuracy is very good, as would be expected from a rotating barrel; I can say nothing about reliability or durability, except that the return spring of the firing pin seems weak, some percussion problems having arisen after approximately 2,500 shots.

The Colt 'All American' is undoubtedly made to contest the Glock's tremendous success in the US law enforcement market; although completely different in their design, and

especially their safety system, the two guns have similar shooting, if not handling and dismantling, characteristics. The only statement that can be made now is that Glock has gained a large practical experience and very quickly corrected the minor drawbacks of its basic design; Colt has a long way to go to regain its position, and a short time to succeed.



Left: The frame (receiver) seen from above, with the captive locking pin of the cam block just pulled before extraction of the block; notice the groove where one of the locking lugs of the barrel moves, ensuring on the other side the locking/unlocking of the barrel in the slide.

Above: Close-up of the slide, barrel, and barrel bushing; at the rear part of the slide, on the right side, is the hook of the firing pin which is pushed back by the sear/trigger to be cocked before release.

Below Left: The magazine, first double row by Colt, is very similar to others used by large-capacity 9 mils, such as the Beretta 92F/M9

Below: The Colt All American 2000 at top with polymer frame and double-action only trigger pull is meant to compete with other 9mm pistols such as the Glock 19 (middle) and S&W 5944 (bottom).



Colt Government Model Mark IV

Type: single-action semi-automatic pistol.
Maker: Colt's, Inc., Hartford, Connecticut, USA.
Calibre: .45 ACP.
Overall length: 216mm, 8.5in.
Barrel length: 127mm, 5.0in.
Weight, empty: 1,105gm, 39.0oz.
Magazine capacity: 7+1.
Construction: blued steel, fixed sights.

There are many who consider the Colt Government Model the combat handgun, and though I do not include myself in the group, I certainly give it high marks. Originally conceived as a military sidearm, the Government Model has also established a good reputation for police and civilian use. The very fact that it remained the official US service handgun for nearly 75 years says much for the durability and reliability of the big Colt. The fact that John Browning designed the Government Model is also a telling point in its favour, since the Ogden Maestro rarely made mistakes.

The Government Model utilizes a breech system based on a link below a barrel, which cams the latter out of engagement with the recesses in the slide after the slide/barrel group, locked together, has travelled a short distance backward. This system works particularly well with the .45 ACP round. Dismantling the Government Model for normal maintenance is reasonably easy, though more complicated than some newer designs. With practice, however, the .45 Colt automatic can be field-stripped quite rapidly. When the Mark IV Government Model is field-stripped, it becomes clear that the barrel bushing fits more tightly around the barrel than on the older military or commercial guns. This improves accuracy considerably.

Despite its large calibre and hefty size, the Government Model is eminently concealable. Apart from the protrusion of the slide stop and the safety, the side of the slide is quite flat. On the standard Government Model (but not the Gold Cup variant), the sights are rudimentary – though adequate out to 25 yards and compact enough to minimize snagging clothing during a rapid draw.

The Government Model safety is placed so that it can be flicked off without changing the hand-grasp. Operating the slide stop and the magazine-release button, however will usually require a shift in grip. The magazine release lies in a typical Colt-Browning position, on the frame behind the trigger guard. The Government Model grip is reasonably

comfortable for a medium or large hand. Some shooters find that the hammer has a tendency to 'bite' them as it is cocked by the slide, while others find that the grip safety hinders a proper grasp. However, it is not advisable to disconnect the grip safety, especially on guns carried cocked-and-locked ('Condition One') – a practice I do recommend.

The Government Model's magazines play an important part in reliable functioning, and their lips must be checked frequently to ensure they are not bent. Followers and follower springs must also be checked frequently. Magazines are, of course, important to the working of all semi-automatics, but this is particularly true of the Government Model. The magazine will normally fall free easily when the release button is pressed, aiding rapid reloading.

The trigger pull on the test gun was rather heavy, but the design of the parts is such that any good pistolsmith can smooth the action. On the range, the gun performed reasonably well. As might be expected, the best performance was obtained with 230gn Remington full metal-case (FMC) bullets, which went into 3.5-4in diameter groups at 25 yards. Federal's 230gn FMC and 185gn jacketed hollow-point loads performed almost as well.

Though the slam of the recoiling Government Model slide disconcerts many inexperienced shooters, practice usually makes perfect. Much of the fear of using this .45 gun stems from the reminiscences of poorly-trained military personnel issued with well-worn guns. However, small hands are not really compatible with the Government Model even though many outstanding women shooters have proved that the big Colt can be a satisfactory unisex weapon.

The Colt Government Model is worthy of consideration for military, police or civilian combat/defence purposes. The .45 ACP is a good man-stopper with metal-jacketed 'hardball' ammunition, though Silvertips or Glaser Safety Slugs enhance its performance. Though it is considered a 'large auto', the Government Model carries reasonably well, though at something of a disadvantage to the Colt Lightweight Commander or .45 Officer's Model where concealment is concerned. The Government Model makes a good holster gun, preferably carried cocked-and-locked ('Condition One' provided suitable care is taken with the chambered round. The gun is valuable for home- or personal-defence use in the hands of an experienced firer, but is not recommended for the occasional shooter for whom the Government Model is too powerful a handful. Survivalists also like the .45 ACP Colt, owing to the wide availability of spares and ammunition – in addition to its durability and proven knockdown capability.



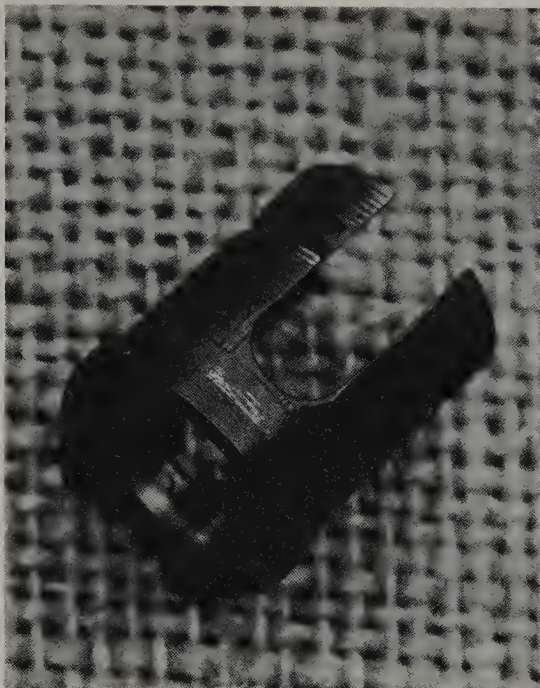
One of the most impressive features of the Government Model is its businesslike appearance. There is little doubt that it is intended for combat.



The well-placed magazine release, safety and slide stop are all obvious from this view. However, sights are minimal.



The Government Model's grip safety, though useful, prevents some shooters gripping the Government Model properly.



(Above) The new-pattern muzzle bushing helps improve the accuracy of the Government Model.



(Right) The Government Model really does not have an uncontrollable recoil: note that the ejected spent case is still in the air, yet the gun is being returned to the target. However, the slam of the slide has a recoil-magnifying effect that may disconcert inexperienced firers.



A 25 yard group obtained with the Government Model.

Colt Officer's Model

Type: single-action automatic.
Maker: Colt's, Inc., Hartford, Connecticut, USA.
Calibre: 45 ACP.
Overall length: 184mm, 7.25in.
Height: 127mm, 5in.
Width: 35mm, 1.37in.
Barrel length: 89mm, 3.5in.
Weight, empty: 964gm, 34oz. (unloaded).
Sights: front — blued post with white dot, rear — square notch with two white dots.
Stocks: blackened, chequered walnut.
Finish: stainless steel, fixed sights.
Capacity: 6+1.

The Colt Officer's Model marks a new responsiveness on the part of Colt to the desires of shooters. For many years anyone wanting a compact .45 auto had to either have a custom gunsmith alter a full-sized Government Model or be content with a Detonics. With the introduction of the Officer's Model, however, a highly concealable Colt .45 auto is now available from the factory. There are four versions available: blued steel; blued Lightweight, with an alloy frame; stainless steel; and matt nickel. My personal favourite for carrying would normally be a Lightweight version; however, since one was not available for testing as this book went to press, I have evaluated my second choice, the stainless steel Officer's Model.

One of the big points in the Officer's Model's favour is that it is chambered for the potent .45 ACP cartridge yet is still quite compact. This combination is hard to beat for someone who carries a gun professionally. Of course, the Officer's Model's concealability is still relative since I would rate it a holster gun rather than a pocket pistol. The Officer's Model is, in fact, slightly bulkier than the Detonics, partially due to a slightly longer grip, which most find more comfortable. Personally, I don't really see that it makes much difference in shooting the two guns. One thing I really do like, though, is that, unlike the Detonics, the Officer's Model incorporates a grip safety. Even though I've carried autos cocked and locked for twenty years, such carry still makes me a trifle nervous, and the grip safety lessens that nervousness somewhat. The Officer's Model also incorporates the old-style flat mainspring housing, which certainly makes sense on the shorter grip. The Officer's Model shares the ringed hammer with the Colt Commander, and this is a good choice for concealment arm since it is less likely to snag while drawing the arm.

One feature the Officer's Model shares with the Detonics is the use of the coned barrel for lockup at the muzzle. I've always preferred this system to the use of a barrel bushing, but the Officer's Model uses both the cone system and a bushing. Like the Detonics, the Officer's Model also uses a double recoil spring to dampen recoil and cushion the slam-

ming of the slide. This combination makes for good accuracy and reliability with the Officer's Model, but I dislike the fact that the Officer's Model is more difficult to field strip for cleaning than either the full-sized Government Model or the Detonics MC-1.

In addition to the grip safety the Model incorporates a normal Colt-type safety on the left side of the frame, which is well located for quickly flicking off in a combat situation. There is also a 'half-cock' safety which will prevent the hammer from hitting the firing pin if the gun is dropped or the hammer released in some other manner than pulling the trigger. The firing pin itself is an inertia firing pin, which needs a hammer blow before it can hit the primer on a cartridge. This firing pin also incorporates a lock to prevent its movement until the trigger is pulled. In combination, these safeties offer many failsafes to prevent an accidental discharge though, as always, with firearms great care must still be exercised!

To allow accurate sighting the top of the slide has a matt finish to reduce glare. The front and rear sights on the stainless steel model tested were blued and incorporated white dots for quick acquisition. Though these are fixed combat sights rather than adjustable target sights, they function very well for the ranges likely to be involved in using the Officer's Model. The square notch on the rear sight is open enough to allow easy acquisition, and with a little practice, one can align the three dots on the sights very quickly.

The grips are of black chequered walnut and offer a good gripping surface. In fact, I find the Officer's Model the most comfortable Colt .45 auto I've ever fired; its grip actually fits me better than a full-sized Government Model. The magazine release is located on the frame in standard Colt/Browning position for easy engagement, though from the factory the magazine does not drop free when the release is pressed. Those desiring faster reload capability will want to have a custom gunsmith work on this. Also, as with other Colts the Officer's Model comes with only one magazine. I've always felt that an auto pistol should be supplied with at least two and preferably three magazines. The inclusion of a spare magazine and of a test target to show the gun has been tested are both aspects of European autoloaders I much prefer over American autoloaders.

Tests were carried out with 100 rounds of Federal 230 gn FMC ammo, 50 rounds of Federal 185gn JHP ammo, and 50 rounds of CCI 200gn JHP ammo. All 200 rounds were fired in one session, and the Officer's Model performed excellently, feeding all flawlessly and providing good accuracy with all three loadings. Most testing was done at 15 yards, with some fast shooting at 10 yards and a couple of magazines full at 25 yards. At 15 yards 6-shot groups usually ran in the 3-4in range. These groups were normally fired off-hand fairly quickly. As might be expected, muzzle flip and recoil were slightly more noticeable than with a full-sized Government Model, but they were certainly not more

than an experienced shooter can handle with ease. I found that the Officer's Model handled very quickly when used to engage multiple targets, a real plus for a real-world combat weapon.

Overall, I give the Officer's Model very high marks. It is compact yet authoritative. It is very reliable and very accurate. I like the stainless steel version I tested a great deal,

but would recommend the Lightweight version for anyone needing a gun to be carried constantly. Those ten ounces less make a big difference when the weight is tugging at one's belt. For a house defence gun, an outdoorsman's gun, or a boat-owner's gun, however, the stainless steel version should get the nod.

Just how compact the Officer's Model is can be seen from this comparison with a Smith & Wesson J-frame revolver which has a barrel 1½ inches shorter and holds 2 less cartridges.



This 15-yard group illustrates that the Officer's Model is quite capable of good combat accuracy.

Colt Python

Type: double-action revolver.
Maker: Colt's, Inc., Hartford, Connecticut, USA.
Calibre: .357 Magnum.
Overall length: 286mm, 11.25in.
Barrel length: 152mm, 6.0in.
Weight, empty: 1,235gm, 43.5oz.
Cylinder capacity: 6.
Construction: stainless steel, adjustable sights.

It is often said that the Python is the Rolls-Royce of revolvers and, even though the description is hackneyed, the phrase remains apt. Like the Rolls-Royce, the Python is a cut above its competitors, both in quality and price. Introduced in 1955 as a target revolver, the Python has since achieved great popularity as a combat and sporting gun. From the beginning, Colt has lavished more hand fitting and polishing on the Python than on any other revolver, and the result has been a superior product.

Accuracy standards, for example, are quite high for Pythons; and each one is bore-sighted with a laser. The components of the trigger system are hand-honed, resulting in a smooth and crisp action, generally conceded to be the best 'out of the box' pull obtainable. The standards of external finish on Pythons are normally substantially better than average.

The Python's outstanding performance is matched by its classic looks. The heavy ribbed barrel, with its under lug, is one of the most admired and most copied features of modern revolver design. Not only is this heavy barrel aesthetically pleasing, but it is also a real boon in countering muzzle flip. It is both handsome and functional. Although the 4in barrel is more practical for combat use, the popularity of the 6in Python with police officers influenced selection of the test gun.

The Python uses the Colt I-Frame which, though sturdier than the Smith & Wesson K-Frame, is not really large. However, it is certainly heavy and strong enough for the .357 Magnum round. The Python's cylinder is also strong enough, though not as hefty as those of the Smith & Wesson Models 27 or 28. The absence of counter-bored chambers is one of the few poor features of the Python. As one expects with a superior weapon, the Python cylinder locks with that 'bank vault click' denoting solidity. The ejector rod also

glides as smooth as silk. In normal Colt fashion, the cylinder revolves clockwise and locks up tightly as the hammer falls.

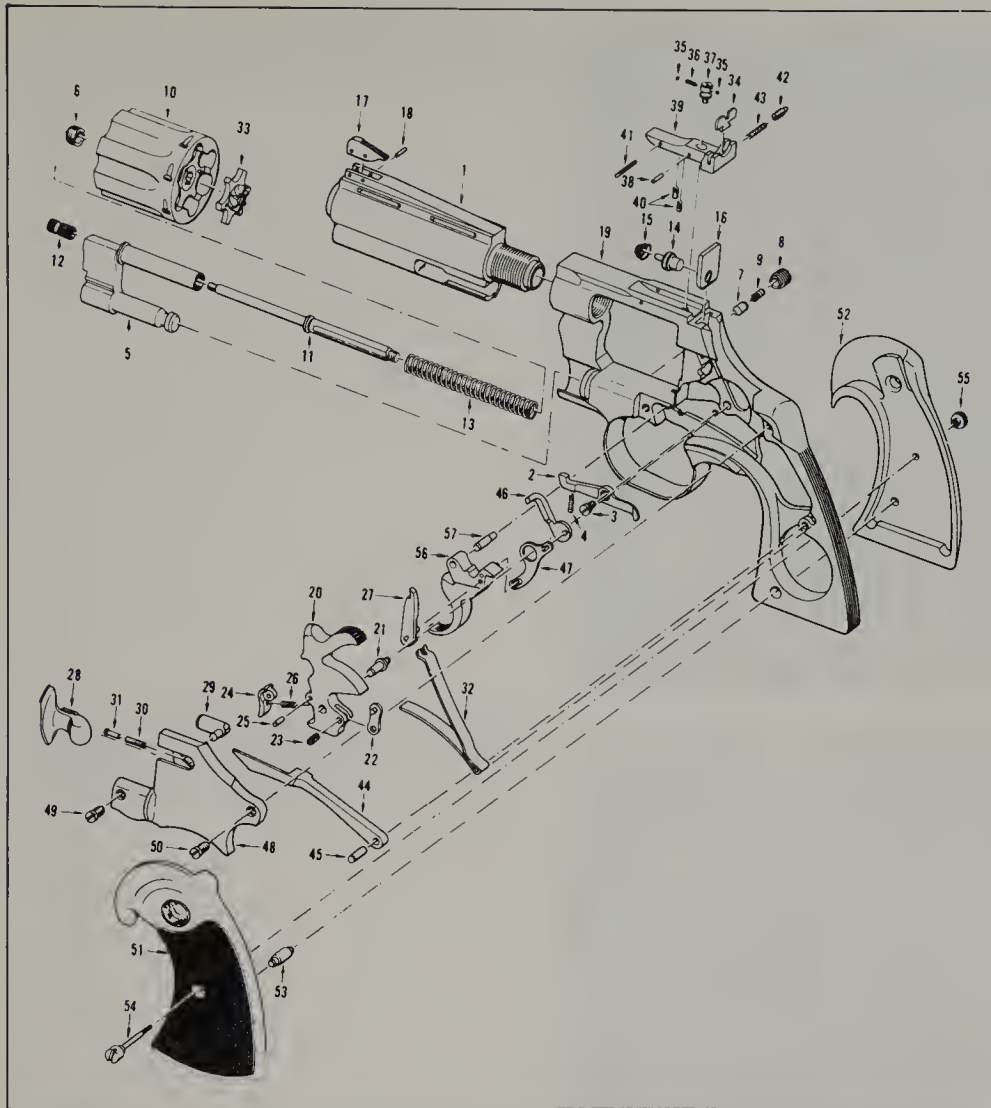
I have a slight preference for Smith & Wesson's rather than Colt's adjustable sights, principally because the former's micro-adjustable back sights are supported at the rear of the frame. The back sight on the Python (and some other Colts) is not supported in the same manner, though strong and easily caught by the eye. The Colt sights are blackened to prevent glare, while the top strap and the top of the rib have a glare-restricting matt finish.

Fittingly, the Python, Colt's first stainless gun, displays one of the most carefully finished stainless finishes ever examined even by a particular fan of such work. The single- and double-action trigger pulls are both smooth and crisp. I dislike the standard wood Python grips, owing to their shape and sharp chequering, and fitted the test gun with the optional Colt 'Gold Medallion' Pachmayr pattern. The Pachmayr grips comfortably and effectively cushion recoil with full-power .357 Magnum loads, though the weight of the Python also helps to minimize apparent recoil.

On the range, the Python lived up to its reputation and proved the most accurate US-made revolver tested for this book, achieving 2in-diameter double-action groups at 15 yards. At 25 yards, sub-3in groups were also common. The most accurate load was the 125gn Federal jacketed hollow-point, but the similar 125gn Remington, 140gn CCI-Speer and 158gn Federal bullets also performed well. The combination of the long, heavy barrel and smooth double-action trigger pull allowed swift recovery during rapid fire.

Overall, the Python performed outstandingly. It's that exception in today's commercial world: an item which lives up to its billing and its price tag. Though the gun is expensive, the purchaser can console himself with one of the finest handguns in the world.

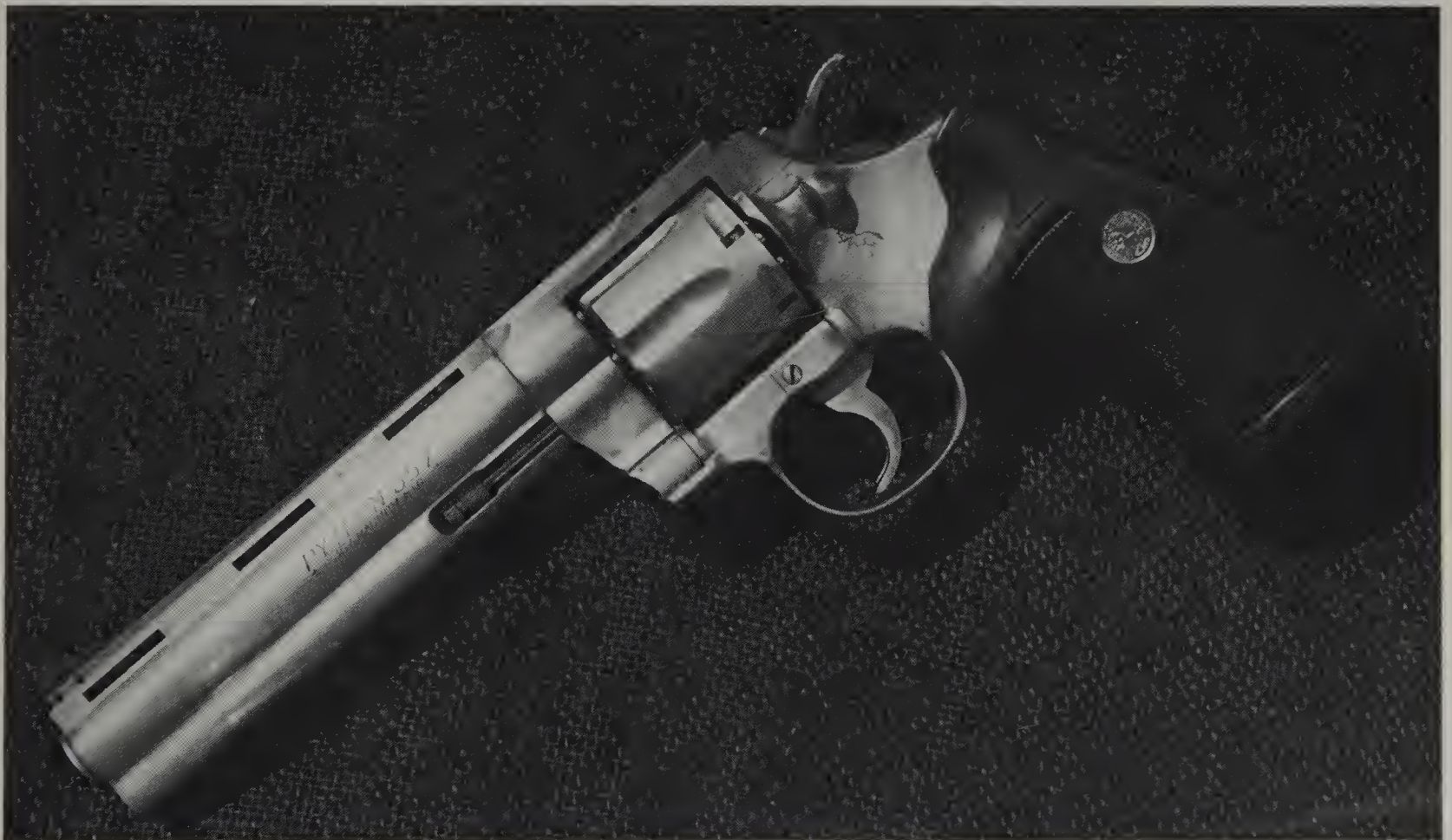
The Python is certainly not everyone's choice for combat, but I recommend it highly to those wanting a .357 Magnum holster gun...assuming they can afford the outlay. As a police duty weapon, the Python is excellent. Many policemen are willing to pay the price to ensure that the principal tool of their trade is the best. The Python is also a good choice for the civilian who appreciates the best, and is willing to pay well for a personal defence gun he can treasure as well as trust. Many shooters use a Python for hunting, silhouette shooting and even plinking. For such versatility, the 6in-barrelled Python — as tested here — is a good choice, even though I would prefer the 4in barrel in combat.

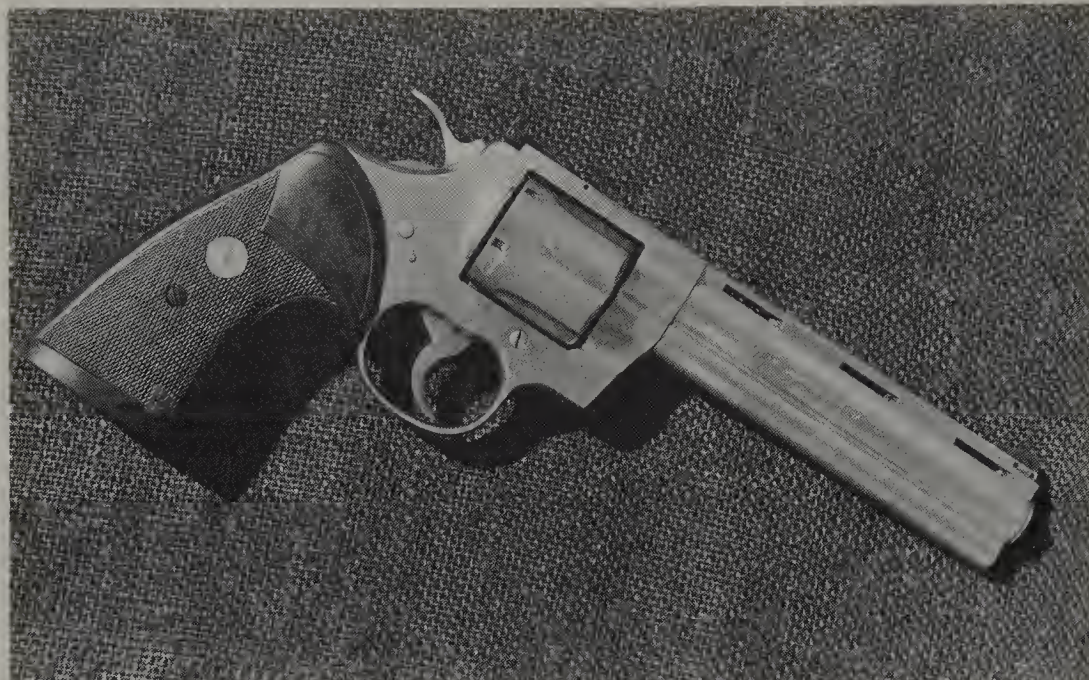


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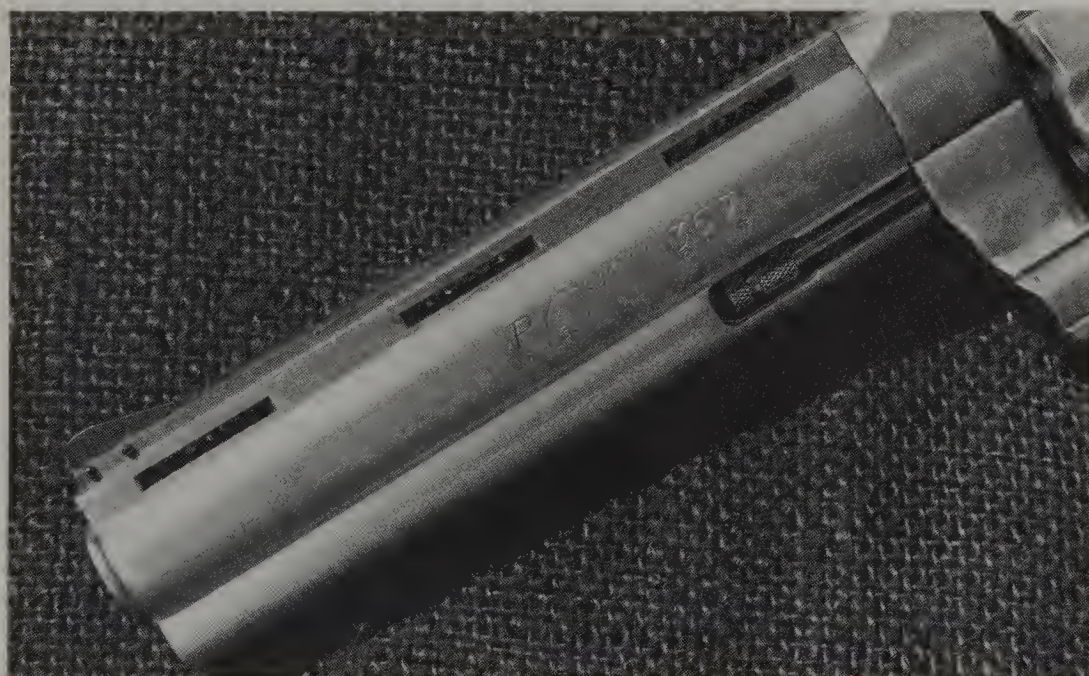
1	Barrel	31	Latch Spring Guide
2	Bolt	32	Main Spring
3	Bolt Screw	33	Ratchet
4	Bolt Spring	34	Rear Sight Blade
5	Crane	35	Rear Sight Detent Balls (2)
6	Crane Bushing	36	Rear Sight Detent Spring
7	Crane Lock Detent	37	Rear Sight Elevating Screw
8	Crane Lock Screw	38	Rear Sight Elevating Screw Pin
9	Crane Lock Spring	39	Rear Sight Leaf
10	Cylinder	40	Rear Sight Leaf Elevating Springs (2)
11	Ejector Rod	41	Rear Sight Leaf Pin
12	Ejector Rod Head	42	Rear Sight Windage Screw
13	Ejector Spring	43	Rear Sight Windage Spring
14	Firing Pin	44	Rebound Lever
15	Firing Pin Spring	45	Rebound Lever Pin
16	Firing Pin Stop	46	Safety
17	Front Sight Blade	47	Safety Lever
18	Front Sight Pins (2)	48	Side Plate
19	Frame	49	Side Plate Screw (Front)
20	Hammer	50	Side Plate Screw (Tgt. Stocks)
21	Hammer Pin	51	Stock—Left Hand
22	Hammer Stirrup	52	Stock—Right Hand
23	Stirrup Pin (Roll Pin)	53	Stock Pin
24	Hammer Strut	54	Stock Screw
25	Hammer Strut Pin	55	Stock Screw Nut
26	Hammer Strut Spring	56	Trigger
27	Hand	57	Trigger Pin
28	Latch		
29	Latch Pin		
30	Latch Spring		

The sleek lines of the Colt Python are emphasized by the comfortable Pachmayr grips.





The 6in barrel gives the Python attractive proportions.



Among the most distinctive features of the Python is its barrel, with a rib and heavy underlug.



The Python has an adjustable back sight and a semi-target hammer, visible in this close-up view.

Despite the heavy barrel, there is still some muzzle flip in rapid double-action firing with full-power loads. The Python is, however, eminently controllable.



The Python proved to be the most accurate of the US-made revolvers tested for this book, as this 15 yard double-action group testifies.



CZ 75

Type: double-action semi-automatic pistol.
Maker: Přesné Strojírenství, Uherský Brod, Czechoslovakia.
Calibre: 9mm Parabellum.
Overall length: 205mm, 8.07in.
Barrel length: 115mm, 4.53in.
Weight, empty: 1,000gm, 35.3oz.
Magazine capacity: 15+1.
Construction: all steel, fixed sights.

One of many pistols made in Eastern Europe specifically for export, the sturdy CZ 75 was the first large-capacity magazine double-action pistol to be made entirely in steel, the Model 59 Smith & Wesson (except for one small batch) being made exclusively with an alloy frame. The CZ 75 is an intelligent combination of the general dimensions of the FN-Browning High-Power with some of the attributes of the SIG P 210. However, these characteristics have been refined into a functional and thoroughly modern design. The grip of the CZ 75, for example, is appreciably better than the High-Power — so good, in fact, that it was crudely copied by the designers of the Bren Ten.

The P 210 provides the 'button-hole' unlocking device, a closed-path lug replacing the links or cam-blocks of the Colt-Browning and the High-Power systems. Like its Swiss prototype, the Czech gun has a slide running inside the grooves cut in the frame. The first impressions of the pistol are very favourable though, oddly, documentation was curiously absent from the box. Had it not been for the fact that dismantling parallels the High-Power, this surprising omission may have caused insuperable problems. There is no dismantling notch on the slide, the slide stop being removed when two small marks on the frame and slide are aligned. This can be difficult, as the weak hand is needed to retain the slide while the slide stop is removed.

A puzzling feature of the CZ 75 is the 'magazine brake', which prevents the magazine being ejected when the release catch is pushed. However, this simple — and somewhat unnecessary — piece of folded sheet-steel can be removed at will.

One original feature of the CZ 75 is the manual hammer-locking safety, rarely found in a double-action trigger, which permits the gun to be carried cocked-and-locked ('Condition One'). Unfortunately, the manual safety is fitted at the expense of a de-cocking system; thus, the trigger must be pulled and the hammer very gently lowered by shooters who do not like to carry the gun cocked on a chambered round. Lowering the hammer in this way is potentially dangerous, requiring not only great prudence but also the need to point the gun in a safe direction.

The well raked grip gives exceptional handling characteristics — among the CZ 75's best features — and the slide-stop, safety and magazine catch are easily operated. The back sight notch is too shallow for some tastes and, in conjunction with the low front sight, gives a bad sight picture except under ideal light conditions. However, this is a minor criticism and can easily be rectified by judicious customizing.

The trigger pull is excellent in both single and double action, (2.1 and 4.6kg respectively on the trial gun (4.6 and 10.1lb), the travel being superior in single action or very good in double-action mode. The CZ is better in this respect than most 'out of the box' factory guns. Its design is comparatively simple, with only 51 parts (including five in the magazine), but there are nine springs and complete dismantling in neither easy nor advisable. The mechanism is classic in its simplicity, except for a disconnecter actuated by both sides of the slide rather than just one.

The CZ 75 functioned flawlessly during testing and Practical Pistol courses on the range: 'Pepper Poppers' — collapsing targets — went down easily up to 30 metres, and good scores were obtained on police 'realistic targets' during rapid fire. The CZ 75 is among the best European combat pistols, with a large capacity magazine, an excellent trigger system, good accuracy and sturdy all-steel construction. The design is rated so highly, indeed, that it has been copied by two Western European manufacturers with purely minor modifications to the safety system. The Italian Tanfoglio TA-90 and the Swiss ITM AT 84 are a tribute to the inspiration of the CZ 75.



The CZ 75 is supplied in an unattractive cardboard box.



The right side of an early CZ 75, with the short slide/frame grooves. Newer guns resemble the CZ 85 (q.v.).



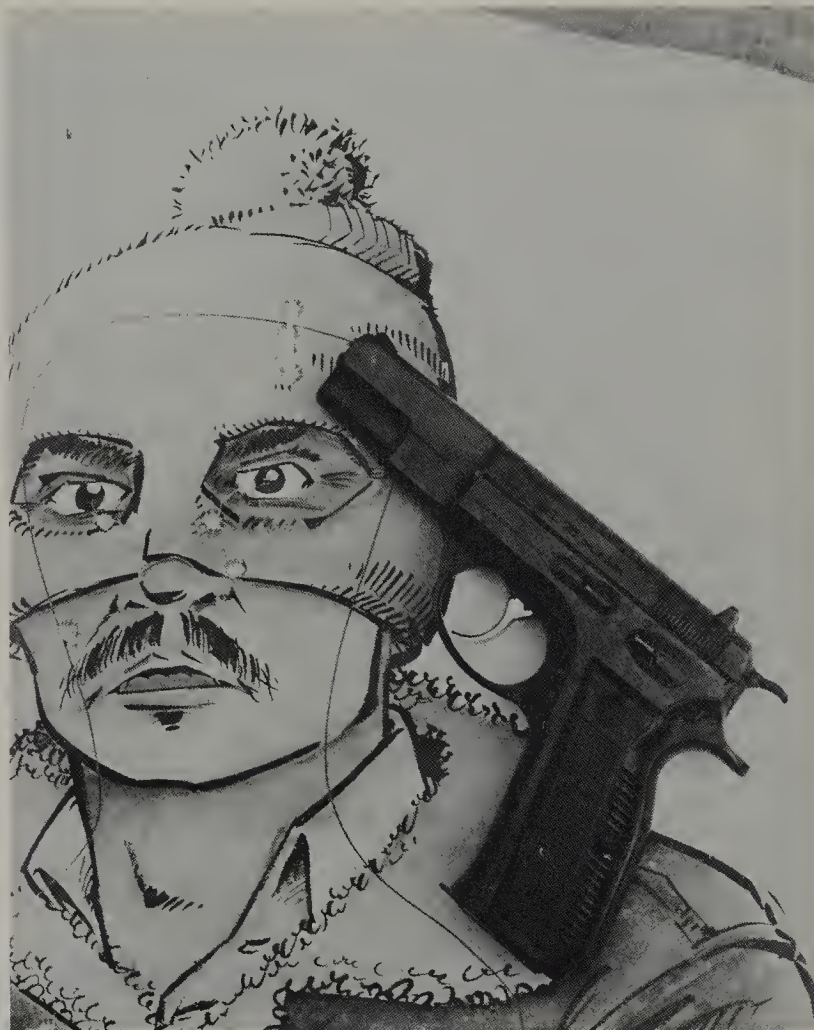
The CZ 75 field-stripped, showing some of the High-Power influences but also the closed SIG-style cam-path in the barrel depressor block.

The combat handgunner should immediately discard the useless CZ 'magazine brake', the spring-strip visible in the magazine-well ahead of the mainspring.

The CZ 75 is pleasant to fire and easily controlled.



The CZ 75: to the head from 10 metres.



An excellent 'body group', achieved with the CZ 75 from 15 metres.

CZ 83

Type: double-action semi-automatic pistol.
Maker: Presné Strojírnoství, Uherský Brod, Czechoslovakia.
Calibre: 7.65mm Auto and 9mm Short (.32 and .38 ACP)
Overall length: 174mm, 6.85in.
Barrel length: 95mm, 3.74in.
Weight, empty: 735gm, 25.9oz.
Magazine capacity: 15+1.
Construction: all steel, fixed sights.

Production of the new CZ 'small automatic' began at the end of 1983, following the success of the earlier CZ 50 and CZ 70, its design incorporating features protected by no less than six national patents. The CZ 83 is a blowback, with its barrel fixed securely to the frame and the recoil opposed only by the mainspring (surrounding the barrel) and the inertia of the moving parts. As the slide reciprocates, the chambered case is extracted and ejected, the hammer is cocked and a fresh round is stripped into the chamber as the breech closes. This system is more than adequate for the low-power 7.65 and 9mm cartridges, but is rarely suited to powerful cartridges such as 9mm Parabellum.

The inspiration for the CZ 83 is clearly the Soviet Makarov (q.v.), and thus, ultimately, the Walther Polizei-Pistole of 1929. Dismantling is controlled by the Walther trigger-guard latch which, when pulled down, allows the slide to be moved back and upward from the frame. The grip of the CZ 83 is unusually thick, which is hardly surprising considering a cartridge capacity three greater than rivals such as the FN DA 140 and the Beretta Mo.81. However, this is advantageous to men with average-size hands and contributes greatly to the pistol's pleasant handling characteristics. The large trigger guard will also accept a gloved finger.

Like the larger CZ 75, the CZ 83 incorporates double-action lockwork and a manual hammer-locking safety lever. The absence of a de-cocking system is less important in the CZ 83 than in the CZ 75 owing to the inclusion of a firing-pin safety; after the initial movement of the hammer when the trigger has released it, under thumb control, a horizontal bar prevents the hammer reaching the firing pin and the gun will not fire even if the hammer slips from the firer's

thumb. When the trigger is pulled, the trigger bar raises the safety until, corresponding with a cutout in the hammer-body, it allows the latter to strike the firing pin.

The CZ 83 also features a truly ambidexterous magazine catch, which can be actuated from either side of the gun with equal facility. The magazine-lock is placed centrally in the magazine well and pivoted on the trigger-guard. The magazine cannot be inserted while the trigger guard is depressed during dismantling. Though the ambidexterous magazine release may seem an obvious advantage, such a crossbolt system must protrude on both sides of the frame and the trigger finger can sometimes inadvertently prevent magazine ejection! Moreover, when the catch is pressed, the average hand - protruding below the short grip - can simply block the magazine. The system will function only with a bit of training. Fast reloading is not only problematical, but pointless if another magazine is not available: only one magazine is supplied with the gun, which also arrives without additional documentation. This is an unfortunate omission, because the CZ 83 is particularly complicated and has an incredible number of parts. Owing to the absence of information and the sophisticated design, no attempt was made to dismantle the test gun: according to Czech sources, it contains no less than 133 parts.

The gun is completely ambidexterous, apart from the slide stop, with the magazine catch and manual safety on both sides and excellent shaping of both grips. The slide stop can be operated by the trigger finger of a left-handed firer, a trick that is easily mastered.

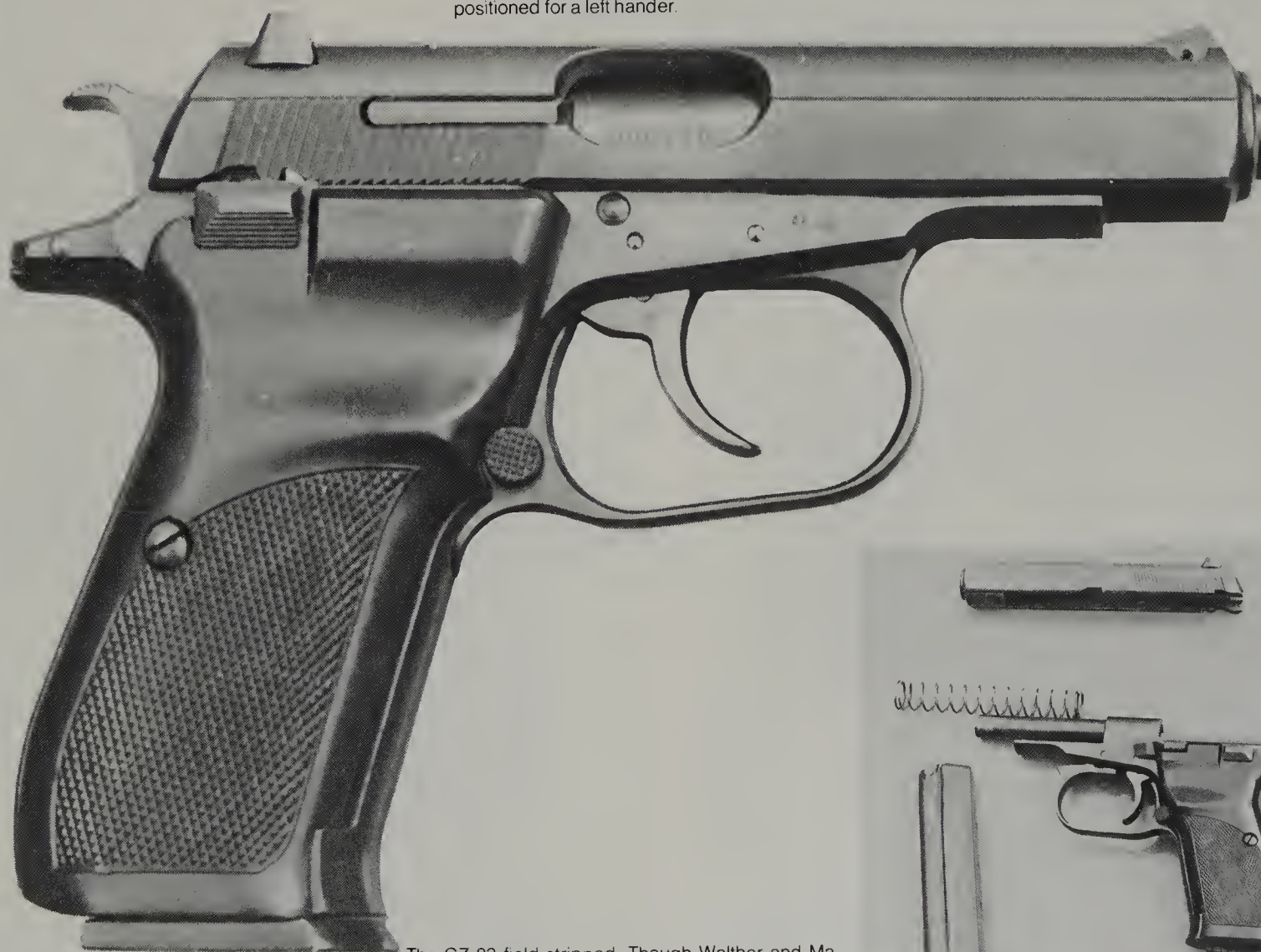
Chambering such an innocuous cartridge as the 7.65mm Auto (.32 ACP) results in unimpressive stopping power. However, mastering the CZ 83 is easy; the sights are good; the trigger pull is exceptional in single action (2kg) or very good in double-action mode (4.75kg); and the gun gives a good account of itself with a two-hand grip and Weaver Stance. Few problems will be encountered in accurately placing very tight groups in rapid fire.

Used with jacketed bullets, the CZ 83 is among the best available 'back up' guns, combining enormous firepower with good concealability and a laden weight of only 850gm. Used with Silvertip ammunition, the CZ 83 can even serve as a main gun for those who seek respectable stopping power with discretion.

A left-side view of the CZ 83, hinting at the curious vertical movement of the ambidexterous safety catch.



A right-side view of the CZ 83, showing the ambidexterous magazine catch positioned for a left hander.



The CZ 83 field-stripped. Though Walther and Makarov influences are detectable, the CZ is appreciably more complicated than either.





Firing the CZ 83 on an indoor police range.

(Below left) The CZ 83 is surprisingly accurate, as attested by this group achieved from 12 metres.

(Below) As the CZ 83 is accurate, the shot in the hostage's hip was entirely my fault . . . !



CZ 85

Type: double-action semi-automatic pistol.
Maker: Přesné Strojrenství, Uherský Brod, Czechoslovakia.
Calibre: 9mm Parabellum.
Overall length: 205mm, 8.07in.
Barrel length: 115mm, 4.53in.
Weight, empty: 1,000gm, 35.3oz.
Magazine capacity: 15 + 1.
Construction: all steel, fixed sights.

The CZ 85 may be obtained in several models. The **Model 06** is finished in matt black and has fixed sights; the **Model 07** is blued with fixed sights; the **Model 08** is a blued 'Sport' model with a fully adjustable back sight; and the **Model 09** is a 'Combat' model with an adjustable back sight, a squared trigger guard and walnut grips.

Though the CZ 75 remains an excellent combat pistol, the Czech designers obviously concluded that revisions were necessary to remain in the forefront of technology. They had already succeeded in refining what had already become a classic handgun by lengthening the slide/frame support, a feature added to the CZ 75 after the initial production runs and perpetuated on the CZ 85 – interestingly, more than ever like the SIG P 210.

The CZ 85 is the same size as the CZ 75, being delivered in a similar cardboard carton with the same lack of information. The modifications are largely external, initially seeming purely cosmetic until further examination reveals that all but one improve the basic design. The new squared-off slide stop and safety levers reduce the possibility of thumb-slip, albeit at the expense of some of the previous elegance. The grips have also been modified, giving the impression, during firing trials, that handling had been improved by very good chequering and astute re-shaping of the upper portions to accommodate the thumb. Owing to the ambidexterity of the gun, the grips remain symmetrical.

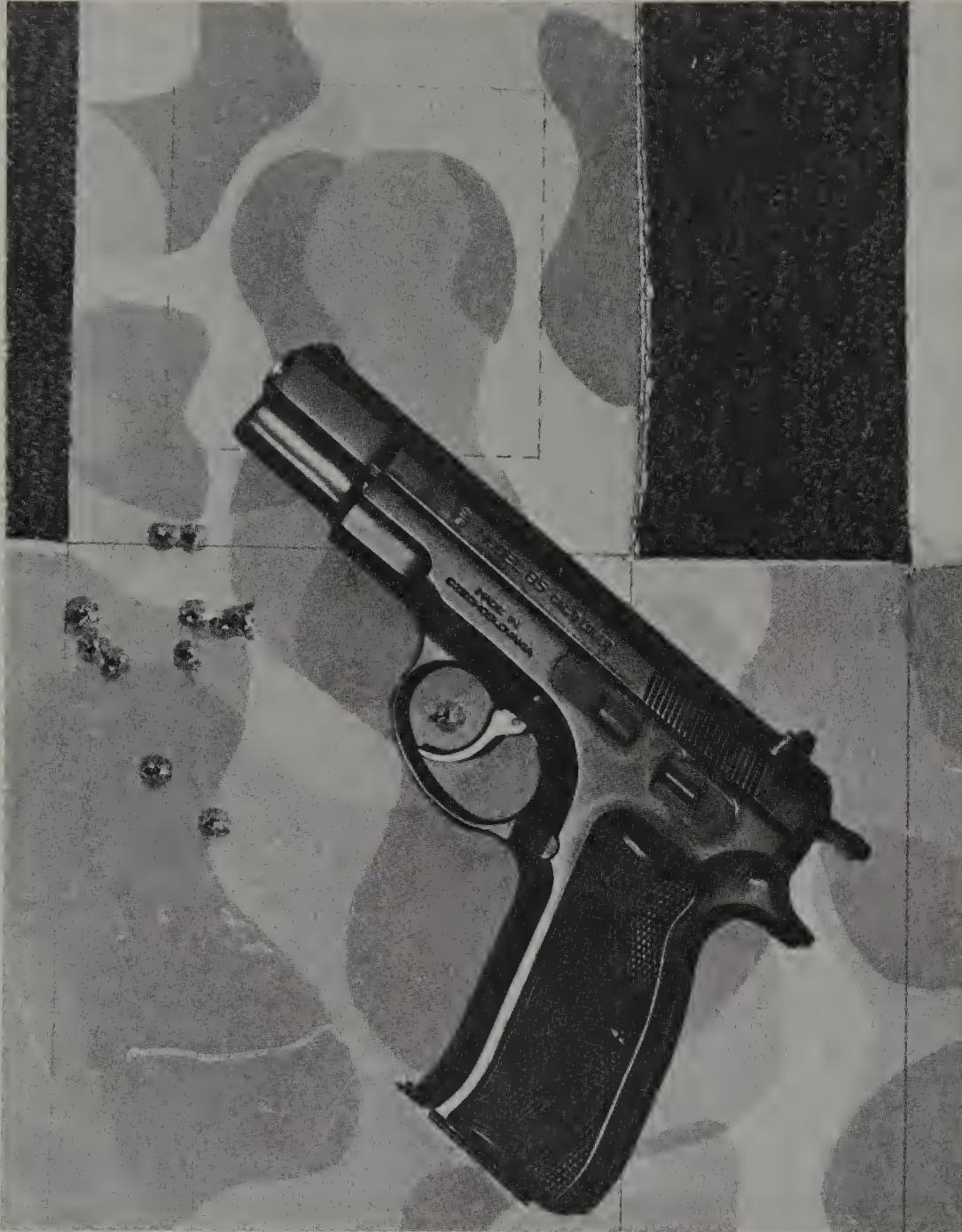
The top portion of the slide has also received attention, with an additional broad glare-suppressing band – a minor modification, as the design of the CZ 75 caused no real

problems and its excellent fixed back sight prevented slide reflections distracting the firer. The slide-retracting grooves have reverted to a conventional flat design at the expense of the original recessed pattern. I feel that this is a retrograde step, as the older design, one of the most interesting features of the CZ 75, permitted easy retraction of the slide and all but prevented the cocking-hand slipping.

The drastic modifications are restricted to the ambidexterous safety (not new in handgun design) and the ambidexterous slide stop, never previously encountered on a production combat pistol. This lever is completely symmetrical and allows perfect manipulation for right- and left-handed firers alike. As this system works so perfectly, one wonders why the clever CZ designers did not add an ambidexterous (or at least reversible) magazine catch to the CZ 85, making it the first completely ambidexterous modern combat handgun since the Heckler & Koch P7M13 – but with more conventional handling characteristics and two extra shots.

The field-stripping sequence, which parallels the CZ 75, is not initially obvious. The pin of the left-hand lever is simply surrounded by the hollow spindle of the right-hand lever. The spindle is retained in the frame by a wire spring, the squared tip of the opposing pin entering a recess in the base of the spindle to ensure that the two slide stops act in concert.

There were two minor irritations with the test gun, a Model 06; the lacquered finish was not very durable, and the superfluous sheet-steel magazine brake was immediately removed. The trigger pull on the sample gun was not as good as the CZ 75: though excellent in single-action mode, the double-action pull was heavy and erratic. Extremely accurate, very easy to operate, with a large-capacity magazine and improved ambidexterity compared with the CZ 75, the CZ 85 could be what Jeff Cooper had in mind when he was developing the Bren Ten. And chambering the CZ 85 for such a widely distributed cartridge as the 9mm Parabellum neatly avoids the problems of obtaining rarely encountered 'one off' types.



The CZ 85 is a straightforward modernization of the CZ 75. This ten-shot group was fired from 12m in poor light, the aim-point being the light-coloured zone to left of the trigger-guard.



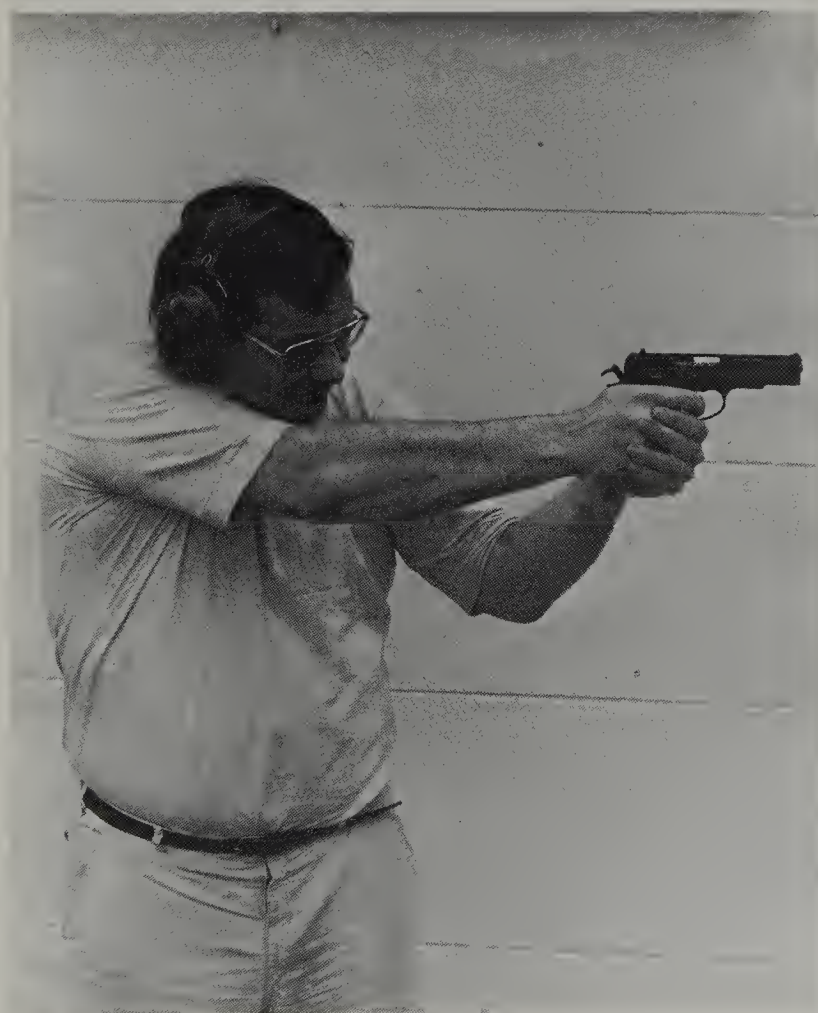
One of the improvements the CZ 85 offers, compared with its predecessor, is the ambidexterous safety catch and slide stop. This gun exhibits the full-length slide/frame support, shared with the later production models of the CZ 75.



The slide-stop lever, viewed from the right side of the frame when the gun is field-stripped, displays the rectangular aperture for the spindle of the corresponding stop on the left side.

On test, the CZ 85 proved one of the most impressive of all combat pistols.

A full magazine at 15m, fired in light conditions paralleling those of the 12m group. The gun is impressively accurate.



FÉG P9R 'Double Action System'

Type: double-action semi-automatic pistol.
Maker: Femaru és Szerszámgyár NV, Budapest, Hungary.
Calibre: 9mm Parabellum.
Overall length: 199mm, 7.83in.
Barrel length: 117mm, 4.61in.
Weight, empty: 985gm, 34.8oz.
Magazine capacity: 15+1.
Construction: blued steel, fixed sights.

The FÉG 9R pistol is sold in some countries under the brand name 'Mauser 90'.

Apart from the Czech firearms industry, which continues to promote indigenous designs, the other constituents of the Eastern Bloc either cling to Soviet designs or shamelessly copy Western guns. It came as no surprise, therefore, when I originally encountered the FÉG 9mm Parabellum SA (now known as the 'FP9') – a blatant copy of the FN-Browning High-Power, except for the ventilated rib atop the slide. The test gun performed very well, as accurately as its prototype, but none of the parts were interchangeable owing to minor differences in tolerances.

Towards the end of 1984, I first learned of the FÉG P9R; and, being the first journalist to test the then-new FN-Browning BDA, I found it intriguing that the Hungarians should have copied the Belgian design so quickly. However, when I obtained the FÉG, I realised that it was not a copy of the BDA, but simply an adaptation of the Smith & Wesson Model 39 – with the fifteen-round magazine of the Model 59 – in High-Power cladding. When S&W upgraded the Model 39 to provide a fifteen-shot magazine, renaming it the Model 59, several modifications were made to the safety system. The FÉG clearly uses the earlier action, together with the Smith & Wesson-type barrel-locking ramps, the trigger mechanism (including the trigger stirrup), the back sight, the safety/de-cocking system, the assembling pin/slide stop and the disconnecter. The High-Power pro-

vides the external appearance, together with the elimination of the barrel bushing, the basic design of the magazine, the twin-lug system of locking the barrel into the undersurface of the slide, the grips, the magazine catch, the front sight and the fixed ejector.

The few original features include the enlargement of the High-Power magazine to hold fifteen rounds, the chequered back of the butt, the ingenious cut-out front of the butt (facilitating withdrawal of the magazine) and the method of retaining the spring-guide rod beneath the barrel: nothing of importance, but, together with the elimination of the magazine safety, at least a minor improvement on both its prototypes.

The action of the trigger and locking systems are described in the sections devoted to the High-Power and the S&W Model 39.

On the range, the P9R demonstrated excellent accuracy and flawless reliability, nothing surprising considering its antecedents. Operation of the magazine catch, the slide stop and the safety/de-cocking lever was stiff 'out of the box', and much manipulation (and dry firing) was necessary before the action achieved smoothness. Even initial dismantling was difficult; unlike the High-Power, there is no dismantling notch in the slide (owing to the S&W-type safety) and the slide must be held to the rear with one hand while removing the dismantling pin with the other.

When satisfactorily 'run in', the gun performs very well. The back sight notch is too small, however, and combines badly with the thick front-sight blade. The only other problem concerned the wood grips for, after dismantling, I tightened the grip screws so far that the magazine could not be released for reloading. The trigger-pull weight is excessive in both modes (more than 3kg/6.6lb single action, 8kg/17.6lb double), and though the single-action pull is short and crisp, double action is long and inconsistent. With a little work on the trigger, however, the P9R is a good choice for those who do not like to carry a gun cocked-and-locked (Condition One carry). As 9mm Parabellum is not used officially in the Eastern Bloc, it is clear that the FÉG is designed exclusively for export.



Excepting the distinctive ventilated rib, the single-action FÉG is a very close copy of the FN-Browning High-Power. None of its parts will interchange with the originals, owing to differing manufacturing tolerances.

The left side of the double-action FÉG pistol, an obvious combination of the external appearance of the High-Power with that of the Smith & Wesson Model 39.





The FÉG P9R. Once field-stripped, the pistol shows its affinity with the S&W Model 39 more clearly.



A typically good group obtained from the FÉG, scarcely surprising considering that not only is the gun very well made, but also that it is based on two successful predecessors.

Glock Pistols

Type: 'safe action' semi-automatic pistol.
Maker: Glock GmbH, Deutsch-Wagram, Austria.
Calibre: 9mm Parabellum.
Overall length: 203mm, 8.0in.
Barrel length: 114mm, 4.5in.
Weight, empty: 650gm, 22.9oz.
Magazine capacity: 17+1.
Construction: steel/plastic, fixed sights.

Since the first edition of this book, the Glock Company introduced a series of novelties, including the constitution of an American Company 'Glock, Inc.' (Smyrna, Georgia). Successively were introduced the Model 19 'compact' (9mm P), the Model 17L (long slide, 9mm P), the Model 18 (with selector semi/full-auto, 9mm P), the Models 20 (10mm), 21 (45ACP), 22 (40 S&W), and 23 (40 S&W), compact. The Glocks are using two different basic frames; standard (17, 17L, 18, 19, 22, 23) and large (20, 21), and use large-capacity magazines: 13 (21, 23), 15 (19, 20, 22) or 17 shots (17, 17L, 18) and, in the meantime, were introducing special '+2' extended magazines, giving two extra shots for each model, and special 31 and 31+2 magazines for the Model 18 with selector, giving it the same capacity as most of standard MPs. Finally, Glock introduced a special amphibious model and factory barrels chambered for the 9×21 IMI cartridge, which gives almost the major power factor with the extra-large capacity of the 9mm.

First seen in 1982 by privileged people at IWA, Nuremberg, this pistol is the first important breakthrough since the perfection of the Walther P38, the first fullbore double-action military pistol.

Apart from the Browning inspired short-recoil operation, the Glock introduces several features and – uniquely – a one-piece plastic frame. As the magazine is also plastic, the gun only weighs 860gm with its eighteen rounds (seventeen in the magazine and one in the chamber). In a brave attempt to explore these revolutionary constructional techniques, Glock has developed a plastic holster and even delivers the gun in a waterproof plastic box with a central hole designed to receive retaining bars.

Even some parts of the mechanism, including the trigger and the safety system, are made of plastic or light alloy. The exceptions are the slide, the barrel, the firing pin and the spring. Narrow metal strips are set into the frame to receive the slide, and similar reinforcing pieces strengthen the lips of the magazine.

The smooth-shaped Glock lies surprisingly low in the hand, despite the recoil spring in its classic position under the barrel. The recoil sensation is minimal considering the low gun-weight.

The only protruding parts are the slide stop and the double dismantling latches (well protected in recesses in the frame), and the unusually stiff magazine catch. The design of the gun is such that there are only 29 parts, four of which constitute the magazine. The Glock slide is locked to the barrel during the initial recoil movement, before the barrel is pushed down and the slide reciprocates alone. Apart from the extensive use of plastics in its construction, the P17 has two idiosyncrasies. One takes the form of an inverted V-spring, which replaces the conventional hammer/firing pin

assembly. In most guns, the firing-pin spring keeps the pin from the chambered cartridge, until the hammer-strike forces it sufficiently far forward; in the Glock, however, the spring is permanently compressed around the firing pin. When the slide runs backward, the 'sear' portion of the trigger system catches a protrusion on the firing-pin and retains it as the slide closes. When the gun is manually cocked for the first shot, or after each succeeding shot, the firing pin is held back until it is released by a pull on the trigger depressing the bar acting as a sear. Thus, the Glock qualifies as striker-fired.

In addition to its unusual ignition system, the Glock is notable for the absence of a manual safety. The effective 'Safe Action' system is simply built into the trigger mechanism, the firing pin safety allowing the gun to be carried cocked-and-locked ('Condition One') perfectly safely. The gun can be operated simply by pulling the trigger, which disconnects the mechanical safety: with a Glock, just draw and fire.

The system is amazingly simple. A second 'trigger', placed inside the main lever and sharing its pivot, protrudes some distance forward of the main trigger. At the back, its extension is blocked by the frame. The firer first has to pull the subsidiary trigger (pull weight 125gm, travel 11mm), which then allows a pull of 2.25kg on the sample gun to release the striker and fire the gun. The trigger pivots on the trigger bar, each reciprocation of the slide forcing the bar downward and resetting both triggers.

Retracting the slide manually with the weak hand (never change your grasp!) is not especially easy, and the magazine catch on the test gun was exceptionally stiff. However, the handling characteristics are otherwise excellent provided the firer remembers to compensate for the appreciable change in balance as the cartridges are fired - with only one cartridge remaining, the weight has dropped by about 170gm or about 20 per cent of the full-load figure. The muzzle has a tendency to drop, as the equilibrium between the steel slide/barrel mass and the loaded magazine is disturbed.

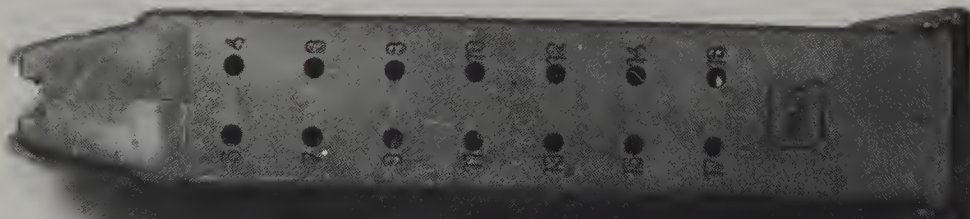
The Glock has excellent sights and is, perhaps, the most accurate of the European combat guns tested for this book. The unusual firing pin leaves a distinctive signature on fired primers, and the rifling profile is claimed by the manufacturer to be a compromise between traditionally grooved rifling and the Heckler & Koch polygonal system. Whatever the claims, the certainly of ignition is excellent and the accuracy outstanding enough to show that Glock's engineers got their calculations right.

The 'plastic gun' is not to everyone's tastes. However, the Austrian army, before adopting it as the P80, submitted the Glock to rigorous testing; including the adverse-conditions trials, the P17 performed a minimum of 15,000 shots without breakages. This is hardly surprising considering that few of the parts are submitted to strain, but only service experience will show whether adoption in preference to



The Glock pistol and its synthetic holster. Note the double-trigger system: the gun cannot be fired until the firer has pulled the 'insert trigger', which otherwise locks the main trigger into the frame. (Courtesy of John Walter.)

The plastic 17-shot Glock magazine is very reliable.



Right: Left-hand view of the Model 18; the only visible difference is the selector on the left side of the slide; here in 'full-auto' (down) position

more conventional alternatives was justified. The external finish of the trial gun, for example, showed wear after only a few hundred shots.

Since the very start, I found the Glock pistol by far the best combat handgun I had ever handled, and I am glad to find that I am not alone in this. Since 1982, more than 3,500 US agencies, including a number of federal, law enforcement organizations of about twenty countries, and military forces of about ten countries, with at least two (Austria, of course, and Norway) as standard sidearm, have adopted the Glocks 17 and 19, not to mention hundreds of thousands of civilians for all purposes, including for combat sports shooting (IPSC).

The price to pay was very slight: introduction of a new trigger connector for police guns, following a requirement of the Miami PD, first US contractor (the standard trigger weight is 5lb/2kg, the 'police connector' weight is now 8lb/3.5kg, and the 'competition weight', available only on Model 17L, is 3.5lb/1.5kg), and of a new trigger spring, following a requirement of the New York State Police (the new spring, combined with a standard 5lb connector, gives a total weight of 9 to 11lb/4 to 5kg for the trigger pull).

I had, during those years, the opportunity to test every new model and some prototypes (for example, both the 17L and 18 with barrel compensator, now discarded as being superfluous). Every potential user has his preferences, and mine are not going to the 10mm, which is too hot to be handled efficiently in a combat gun weighing, empty, only

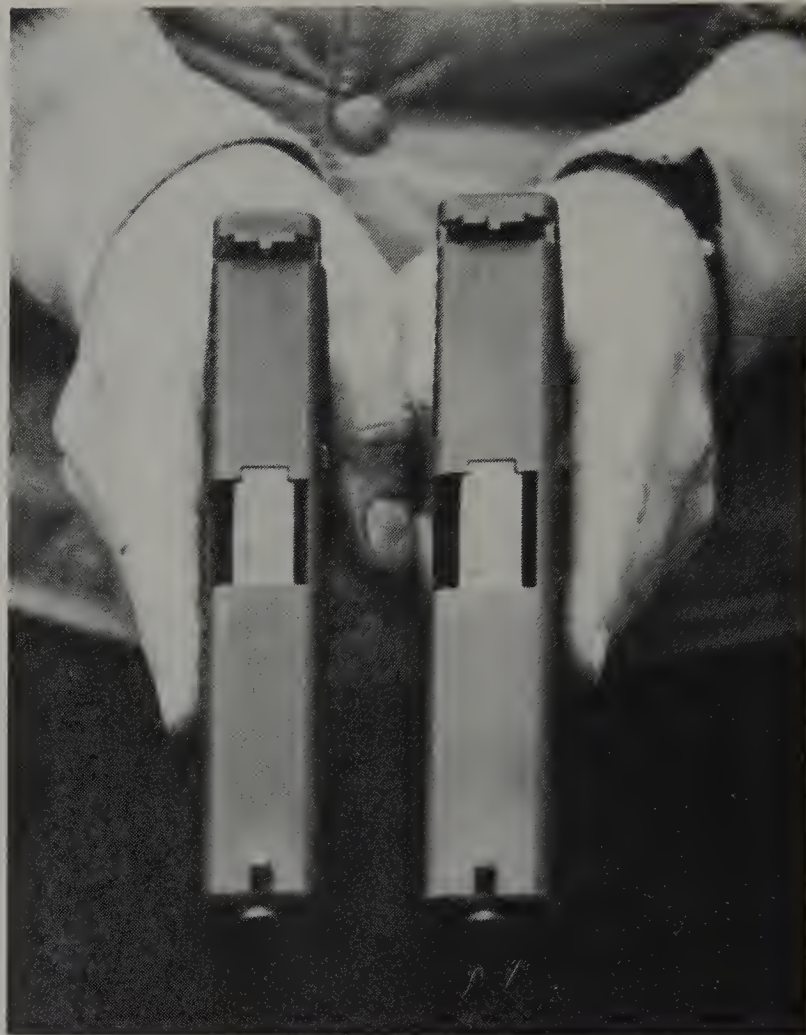
26.35oz/750gm, and the same is true for both 40S&W models (22.36oz/635gm and 20.67oz/585gm, respectively): although potentially the best all-round calibre for defence and police use, the 40S&W is definitely not an 'easy-to-master' round. On the other hand, to have 15 or 13 rounds (maybe +2) of those calibres in your gun and two spare magazines at your belt gives you a lot of power. My winner is therefore the 45ACP Model 21, which supersedes the capacity of every gun of that calibre except the new Para-Ordnance but has over the latter the great advantage of weighing much less (and much much cheaper spare magazines).

Another great combat handgun is the Model 18, which is the only true automatic pistol I know to be really operable without a stock (try for example a Mauser 'Schnellfeuer' or a Beretta 93R without their stocks and you will know what 'spray and pray' exactly means, and the H&K VP70 is just not shooting at all without its own stock); the gun needs a lot of specific training, beginning with three rounds in the magazine (it is a 'full full-auto', no three-shots burst position of the selector) at 3m, and then going for longer distances (10m is entirely possible) and for more cartridges (a full 17-shot magazine can be kept in a human-size target at 7m, which is realistically a medium distance for actual encounter needing suppressive fire). But the very best point of the gun is that it has exactly the same dimensions and only 1oz/30gm more than the Model 17, with an innocent external look, the only visible difference being the non-



obtruding selector lever on the left side of the slide; the system is amazingly simple, a protruding part of that lever's axle forcing down the 'sear' every time the slide is coming back, allowing the firing pin to strike again (in place of being caught by the 'sear'), as long as the trigger is pulled. Much better if possible, when 'up', the selector allows only a semi-auto mode, and it has just to be pushed down to transform the Model 18 to a true machine pistol; due to Glock's 'safe-action' system, no neutral (safety) position is needed. Then, the pistol can be carried and used all the way as a standard semi-auto, and you just have to push the safety down, as any combat shooter is accustomed to do when drawing a 'condition one' single-action pistol, to switch to full-auto. Fabulous tool for some executive protection teams.

Last but not least, since I'm not a combat swimmer, I asked to test the 'amphibious' model (which is a completely standard Model 17 except for the special anti-corrosion coating of some metal parts and a new firing-pin spring cup which is fluted to avoid the 'syringe effect' that could slow the firing pin and block the percussion) underwater; the man has already tested a lot of small arms in those conditions (including the Colt 1911A1, the FN FAL, the Star PD, etc.), and the Glock is the only one so far to have actually fired more than one shot in a row without any incident (percussion, extraction, ejection), the FMJ bullet passing through 2cm pinewood at 1m.

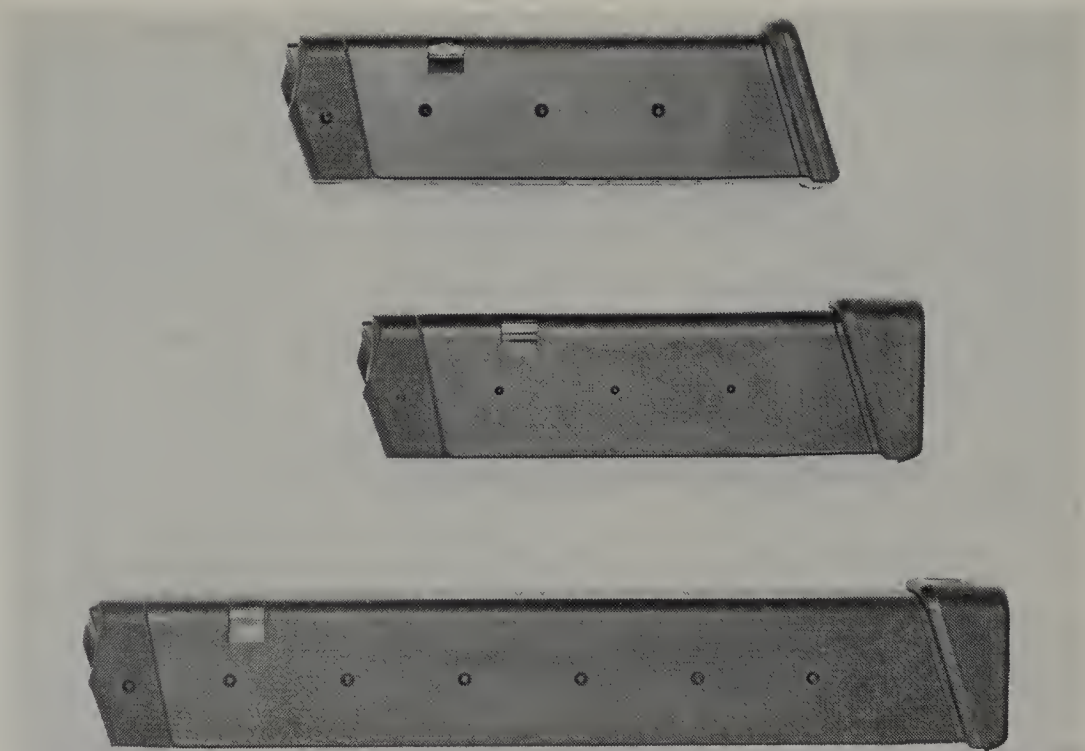


The two basic frames: standard (left) for all 9mmP and 40S&W, and large (right) for 45ACP and 10mm.

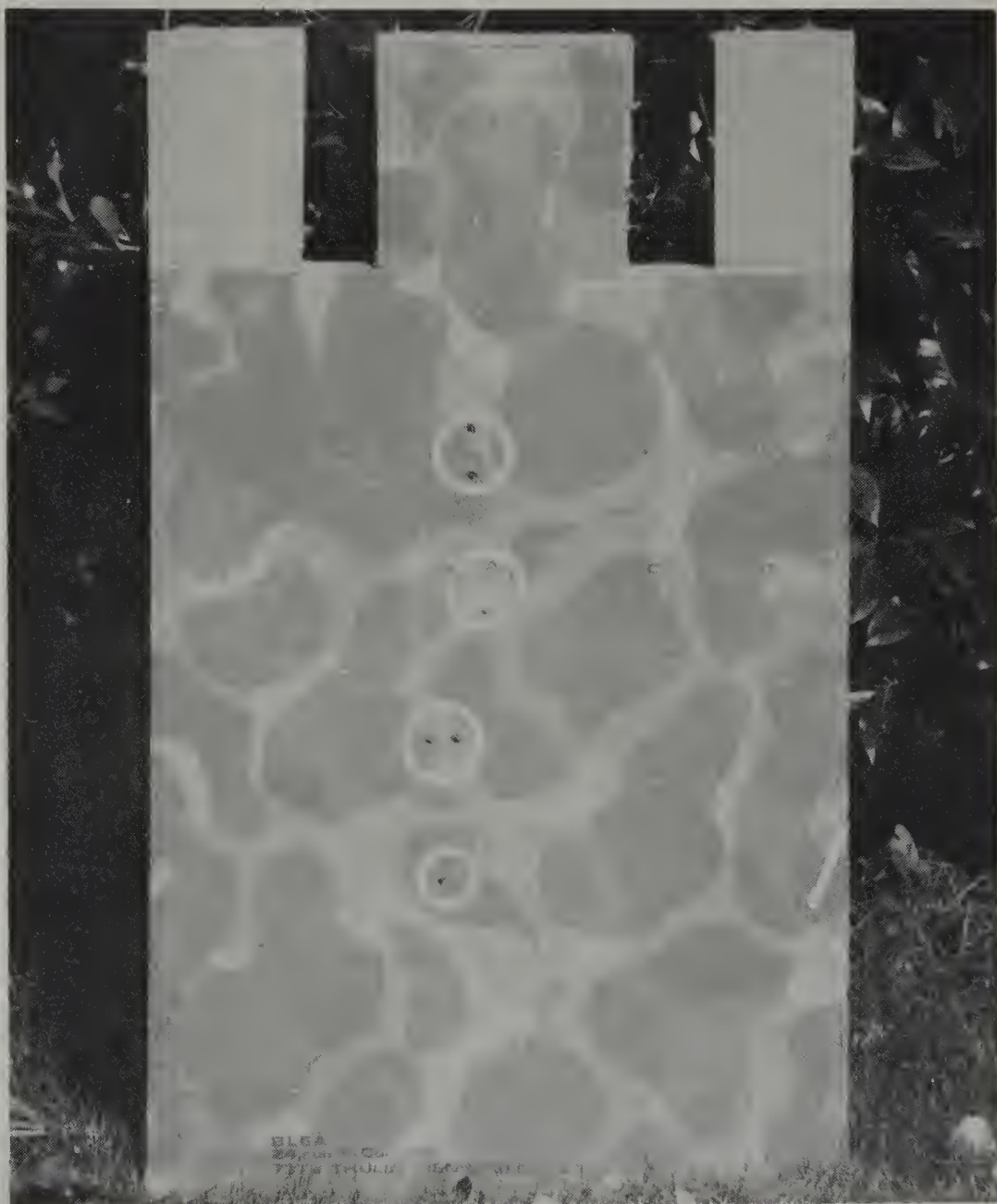


The Model 18 prototypes were, like the first Model 17Ls, equipped with a barrel compensator, soon discarded as being superfluous.

Three magazines used in the 9mmP Glocks: 17, 17+2, 31+2; the latter is specially made for the Model 18 and the gun is to be carried with a standard magazine with one or two 31 or 31+2 spares in special pockets, attaché case or in special locations in the executive car.



Two three-shots burst shot full-auto at 7m with the Model 18: with proper training, the gun is fully operable in that shooting mode.



Heckler & Koch P7M13

Type: double action semi-automatic pistol.
Maker: Heckler & Koch GmbH, Oberndorf/Neckar, West Germany.
Calibre: 9mm Parabellum.
Overall length: 166mm, 6.54in.
Barrel length: 105mm, 4.13in.
Weight, empty: 880gm, 31.0oz.
Magazine capacity: 13+1.
Construction: blued steel, fixed sights.

Heckler & Koch also makes the P7M8, with an eight-round magazine, and a new 'convertible' (0.22in LR, 7.65mm Auto and 9mm Short) P7K3 to replace the old HK4. A .45 ACP version of the P7 has also been developed, and is being readied for series production.

The original Polizei-Selbstlade-Pistole (PSP), together with the Walther P5 and the SIG-Sauer P225, competed in the programme of 1975 intended to regularize the weapons of the German state police forces. The goals included the standardization of 9×19mm (9mm Parabellum) and selection of a pistol that could be carried safely, but fired without requiring a manual safety to be re-set. Eventually, all three of the main participants were passed for service, as the P5 (Walther), P6 (SIG-Sauer) and P7 (PSP).

The only possible way to comply with the carrying restrictions appeared to be a double-action trigger system, selected by SIG and Walther, but – typically – Heckler & Koch sought a new solution. The P7 is one of the most intriguing pistol designs ever to be perfected for service. It shares the polygonal rifling of the P9 and P9S, and a delayed blowback system. However, the delay is provided by allowing a portion of the propellant gas to vent through a gas port near the breech into a chamber beneath the barrel, where a piston pushes the slide forward until the gas pressure drops to a level safe enough to allow the breech to open. The slide then reciprocates, extracting and ejecting the fired case, re-cocking the firing pin (the gun being hammerless) and returning to strip a fresh round out of the magazine and into the chamber.

Although seemingly complicated, the P7 mechanism is simple and efficient. The firing-pin spring is reversed compared with most traditional designs, in which the spring keeps the pin away from the cartridge until struck by the hammer. In the P7 and the Glock, the firing-pin spring is compressed by the cocking of the gun, being held by a sear-bar until the trigger is pulled. The safety system of the P7 is also astutely conceived. When the grip is pressed, it forces the cocking bar to the rear and cocks the striker; however, when the grip is released, the firing-pin returns to its normal position, uncocking the gun. An additional mechanical safety is provided by the slide, which depresses the trigger bar to prevent release of the firing pin until the slide is completely closed.

The main disadvantage of the original P7 was its limited

magazine capacity (8+1) and the position of the magazine catch on the heel of the butt. Reloading required two hands, restricting speed. Though Heckler & Koch had complied with all the terms of the 1975 German police programme, the advent of the US JSSAP led to improvements necessary to satisfy the US Army. The result was the P7M13 (1984), with a large capacity magazine, an ambidexterous magazine catch in the frame and a greatly revised grip.

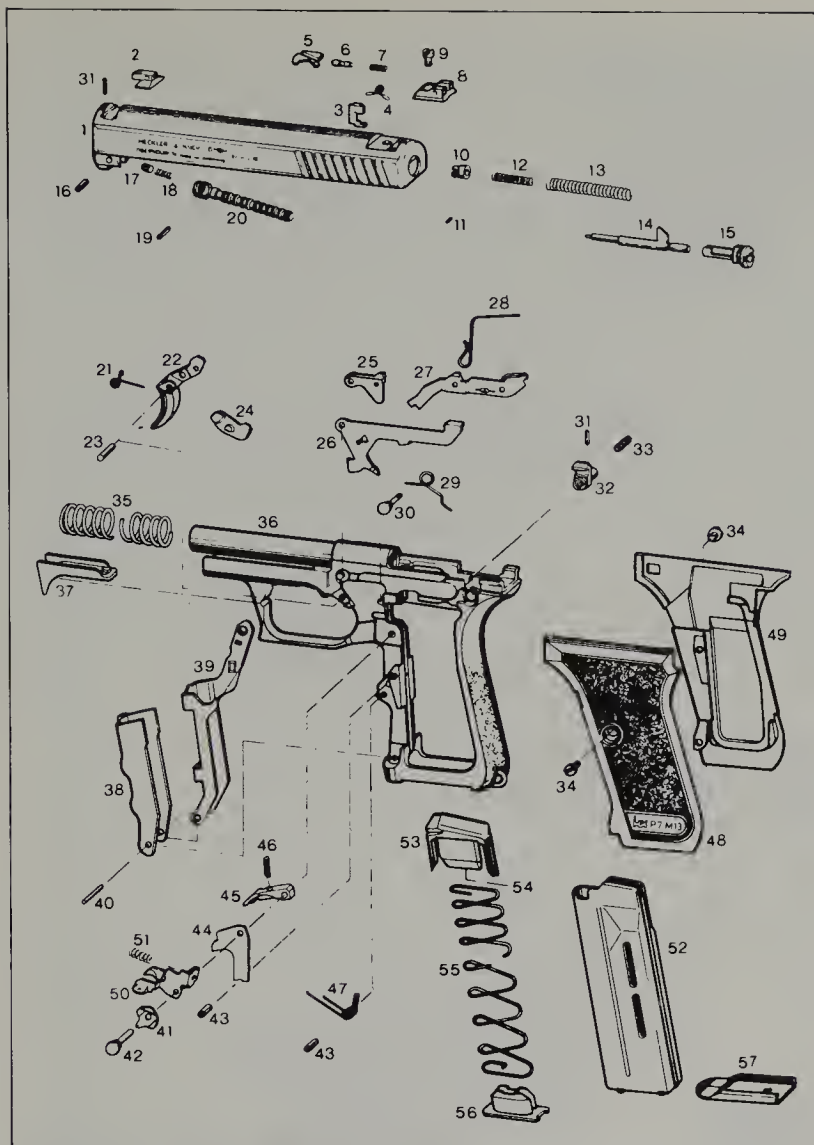
I had little enthusiasm for the original P7, manipulating the action of which was totally alien to my combat-shooting training. For example, depressing the grip bar twice after inserting a new magazine (to close the slide and chamber a new cartridge) seemed less desirable than simply pressing the slide stop with the right thumb to release the slide and load the gun. The stiff pull necessary to cock the system (about 8kg/17.6lb in a new gun), the poor magazine capacity and awkward magazine-catch position made me feel that a promising concept had been let down by poor execution – even though the fixed-barrel polygonally rifled P7 was reliable, accurate and eminently controllable owing to its low profile in the hand.

The test of the P7M13, therefore, was eagerly awaited. I was impressed by the large-capacity magazine and the greatly improved ambidexterous safety catch on the frame. I was a bit anxious about the handling characteristics, because even the preceding P7 grip had been bulky and here was a gun containing five more rounds. Previous experience had taught me not to fear the idiosyncratic cocking grip: when the P7 was drawn, I discovered the grip was pressed naturally and quite unconsciously even before the weak hand reinforced the strong hand in a two-hand grip, and lost no time compared with more conventional designs.

However, during the test, I made a mistake that would not have been so funny had it occurred in combat. When I attempted a 'fast reload', I tried to release the slide by pressing the 'slide stop' through force of habit; unfortunately, this button is actually the magazine catch on the P7M13, and I ended up with an open slide and the magazine on the ground. The P7 family requires intensive familiarization, particularly for shooters who have been used to more conventional designs.

Once unfamiliarity has been overcome, the P7 is a great combat design and probably one of the safest pistols ever proposed. It has the immense advantage of a consistent trigger pull, compared to the differing weights and trigger travel associated with dual-purpose single/double action systems.

Particularly 'hot' cartridges, like the FN factory loads, gave excessive recoil and bad groups owing to handling problems. With normal ammunition, however, the P7M13 is very accurate and pleasant to fire, its 1.6kg (3.5lb) trigger pull contributing to easy manipulation. I am not particularly enthusiastic about the various dots and lines on the sights, though those on the P7M13 are better than others I have tried.



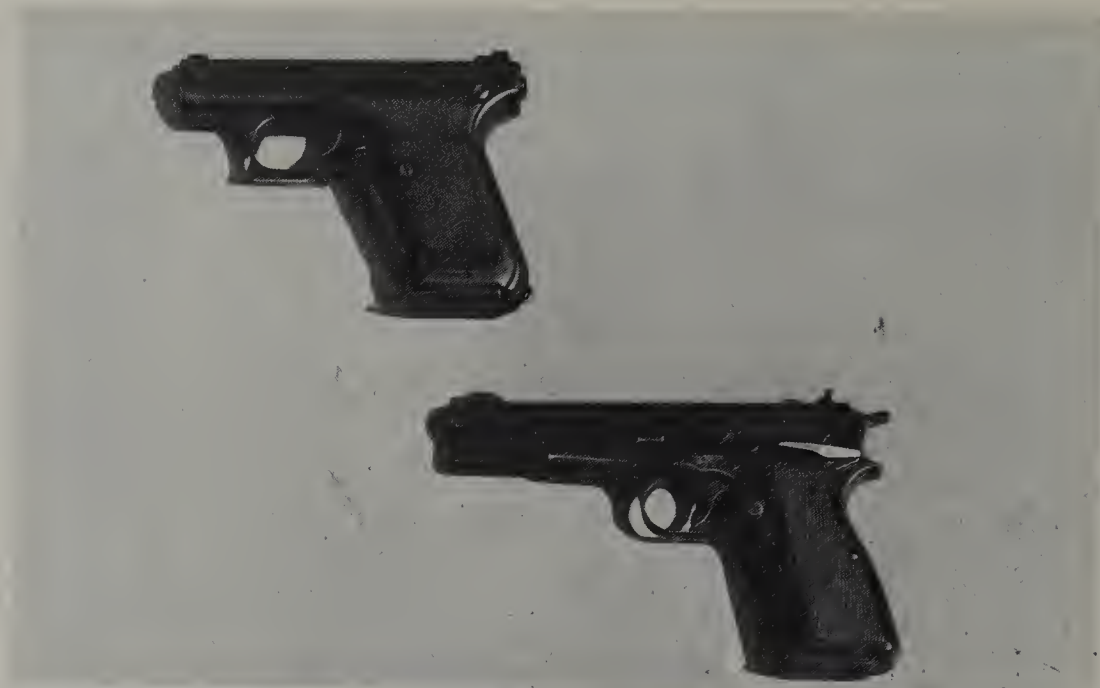
Key

- | | |
|----------------------------|--|
| 1 Slide | 30 Rocker spring axle |
| 2 Front sight | 31 2 × Front sight/ slide retainer pin |
| 3 Drop safety catch | 32 Slide retainer |
| 4 Drop safety catch spring | 33 Slide retainer spring |
| 5 Extractor | 34 2 × Grip screw |
| 6 Extractor spring guide | 35 Recoil spring |
| 7 Extractor spring | 36 Receiver with barrel |
| 8 Rear sight | 37 Cover for trigger guard |
| 9 Rear sight screw | 38 Squeeze cocker |
| 10 Firing pin collar | 39 Drag lever |
| 11 Firing pin collar pin | 40 Squeeze cocker axle |
| 12 Inertia spring | 41 Rocker |
| 13 Firing pin spring | 42 Magazine catch axle |
| 14 Firing pin | 43 2 × Stop pin |
| 15 Firing pin bushing | 44 Stop |
| 16 Piston pin | 45 Cocking latch |
| 17 Piston detent | 46 Cocking latch spring |
| 18 Piston detent spring | 47 Squeeze cocker spring |
| 19 Piston retaining pin | 48 Grip-shell left |
| 20 Piston | 49 Grip-shell right |
| 21 Trigger spring | 50 Magazine catch |
| 22 Trigger | 51 Magazine catch spring |
| 23 Trigger pin | 52 Magazine housing |
| 24 Transmission lever | 53 Follower |
| 25 Disconnecter | 54 Follower insert |
| 26 Slide catch lever | 55 Follower spring |
| 27 Sear bar | 56 Locking plate |
| 28 Sear spring | 57 Magazine floor plate |
| 29 Rocker spring | |

The compact P7M13 has remarkably neat lines owing to the absence of conventional safety catches.



Comparing the P7M13 with the High-Power shows the added concealability of the Heckler & Koch design, though magazine capacity is identical.

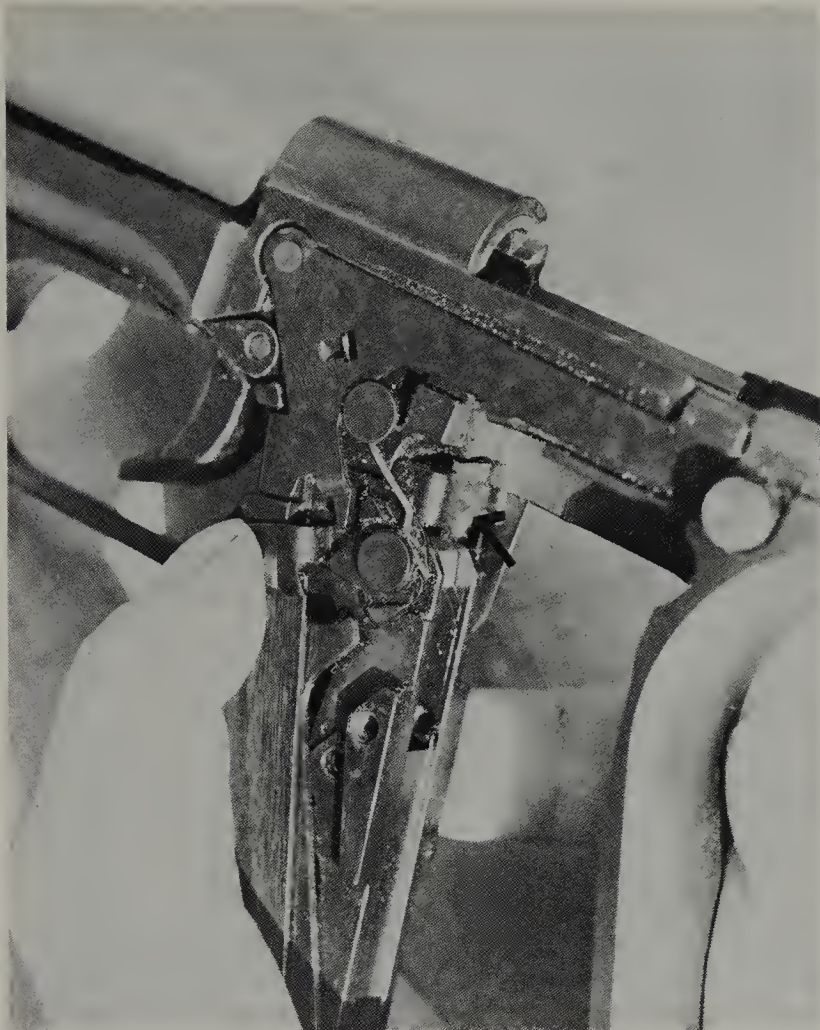


The P7M13 field-stripped, showing the fixed barrel and its annular mainspring. This construction allows a very low profile in the hand.



A view of the P7M13 after the grip has been removed. Some of the springs, particularly, have been reinforced since the earlier P7.

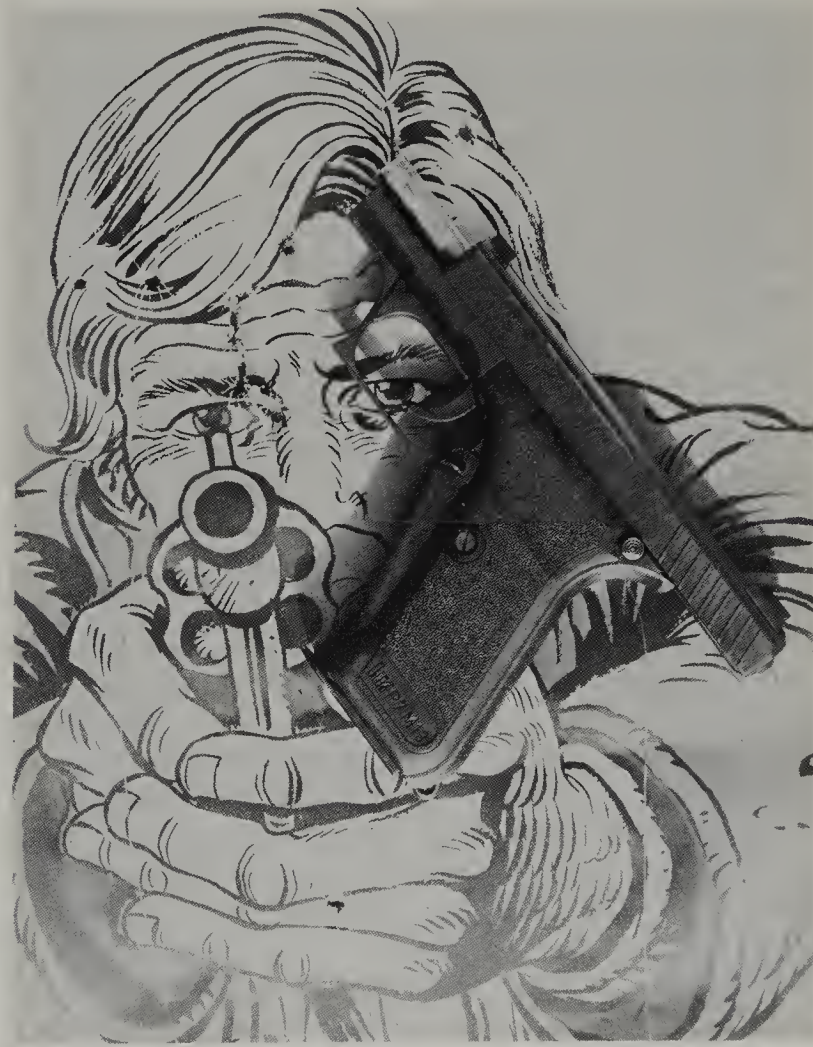




The P7M13 has an ambidexterous lateral magazine catch. The arrow indicates the lock activated by pulling the cocking lever.

(Below left) I rarely use the extended trigger-guard, except for long-range shooting. The P7M13 could be even more compact with a rounded guard.

(Below) A typical group obtained from the P7M13 at 12m, with moderately powerful ammunition.



IMI Desert Eagle

Type: single-action, rotating bolt lock Magnum pistol.

Maker: Israel Military Industries (IMI).

Calibre: .357 Magnum, .44 Magnum, .50 Action Express

Overall length: 269mm, 10.6in.

Barrel length: 152mm, 6in.

Weight, empty: 1,653gm, 57.8oz (357); 1,760gm, 62oz (44); 1,877gm, 65.7oz (50).

Magazine capacity: 9+1 (357), 8+1 (44), 7+1 (50).

Construction: steel frame, with fixed sights.

A small number of Desert Eagles were chambered in .41 Magnum for the US market; the characteristics are similar to the 357 version. Optional longer barrels are offered for every calibre.

At the beginning of 1983 news came of an innovative pistol being developed by Israel Military Industries, renowned for their conception and fabrication of military weapons such as the UZI machine pistol and GALIL assault rifle. IMI had never before conceived a handgun, and the fact that the new pistol was to be chambered in typical revolver calibres, .357 Mag and .44 Mag, was surprising. The concept of using this kind of ammo in a pistol rather than a revolver is often used only on prototypes and, commercially, the only known gun actually produced is the American Coonan. But the American origin of this design explains the choice of cartridges widely used in the States for both handgun hunting and silhouette shooting.

The 'Eagle', which was later to become the 'Desert Eagle', was shown for the first time in the Paris *Expo*, but the Eagle was not fired . . . because the pistol present was not fireable.

For some months, the specialised gun writers – including myself – asked the European importer for news of a sample gun to test but the Eagle was always in the process of improvement, and time passed.

At the end of 1985, articles began to be published in one or two American magazines and, finally, one sample pistol came into the author's hands.

Even with its standard 6in barrel, the Desert Eagle is a monster with its 1980 gm (steel frame and the 9 + 1 cartridges)!

One of the reasons for this extravagant weight is the choice of working principle necessitated by the very powerful ammunition. With a gun having mobile parts, like the automatic pistol, security cannot be achieved with a simple blowback and probably no more with the conventional locking. The choice of the Eagle is to use a gas-operated gun, with a fixed barrel and rotating positive locking . . . a system very similar to that used on many assault rifles, including the GALIL! Even if the Eagle is not the only auto pistol using those principles, their application here is original and deserves some comments.

The fixed barrel, one of the main elements of the system, is a massive tube with a big fore end. This tube is actually a

sleeve containing the barrel itself and the gas conduct just beneath the former; a close examination of a cut-away view of the pistol shows that the small hole allowing the gas to leave the barrel is placed just ahead of the chamber: the gas is thus going forward, re-directed by a sloped part of the conduct to the rear and down, approximately beneath the muzzle.

The tube containing the barrel and the conduct is firmly fixed in three points: the massive fore part and the reinforcement beneath the chamber are slided, and blocked by the axle of the disassembling lever. The slide has a massive block at its rear, comprising the rotating bolt, the firing pin and the manual safety; while its head is equipped with a fixed piston struck by the gas coming from the conduct. This forces the whole slide to go back, with the related consequences: unlocking, extraction, ejection, cocking of the hammer, and chambering of a new round.

The frame itself plays a major role in the operation of the gun: the two very strong recoil springs, around their long fixed guides, are placed into the frame beneath the fixed barrel. These two springs are linked together by a transversal bar on which pushes the fixed piston of the slide (see above) when moved by the gas.

The recoil compresses the two springs, allowing the return of the slide after gas pressure has dropped. Contrary to custom with this type of operation, the gas is not pushing on the piston inside a tube, but is delivered directly in the free space let under the barrel by the recoil of the slide. This is the reason why an initial high pressure is needed, since a high percentage is lost; which explains the position of the hole beneath the chamber.

The positive locking, which gives a complete safety, is provided by a rotating bolt whose head is equipped of three ($3 \times 120^\circ$) lugs, and a fourth that assures the rotating of the bolt when the lugs are penetrating in the mortice zone. The head of the bolt is equipped with a powerful extractor and a piston ejector; while the recess for the bottom of the cartridge has a central hole for the firing pin, acting as the bolt's axle. A powerful spring pushes the bolt forward, where it is locked by a piston, placed parallel to the bolt itself.

The bolt remains in the forward position until the piston is pulled back by the edge of the fixed barrel; which occurs when the slide is coming back from its rearward position, and allows the bolt to retract and to rotate; causing the locking of the system and the chambering of the cartridge. The reverse motion allows the unlocking and the extraction of the case.

The mechanism is based upon a stirrup. This system, common with a plain trigger, is unusual with the type used on the Eagle. With a plain trigger (like the one used on the Government or the early FN Brownings), when the trigger is pulled the stirrup pushes on the sear: here, when pulled, the trigger forces the stirrup forward and this pulls a hook that is the upper part of the sear. The stirrup itself is used to

prevent the shooting of bursts. To engage the sear's hook the stirrup has to be in the upper position, and is pushed naturally in this position by its own spring, but each of the stirrup's arms has a vertical bar corresponding to a recess in the slide. When the latter is not completely closed, the stirrup is forced down and the gun cannot fire.

The moving of the slide, when the gun is fired, forces the stirrup down, separating rear bar from the sear's hook. The latter pivots and goes back, under pressure of its own spring, and the trigger has to be released to allow the stirrup to go rearwards to re-engage the sear's hook.

The ambidexterous manual safety is not placed on the frame but on the slide itself – an uncommon practice with single action auto pistols, but the gun, with its enormous slide surrounding the frame, leaves no place for a more common safety lever placed on the frame.

The safety chosen allows a very simple and efficient system. The axle of the safety has a spur which blocks the firing pin, two other spurs being simultaneously pushed down into the two recesses of the slide to the vertical bars of the stirrup. The advantage is that – the firing pin being blocked and the stirrup deactivated – all the manipulations of the slide, including the chambering of the first round or the unloading of the chambered cartridge, are possible: as the slide is not blocked as on most SA pistols when the safety is on. All of the dangerous manipulations are here perfectly safe: the drawback is that, with a safety lever not very accessible to the thumb, this is definitely a slow manipulation. The dimensions of the gun, however, make it a weapon unlikely to be carried concealed and, if used as a combat gun, it will probably be used by law enforcement agencies who have the opportunity to draw and unlock the safety before action occurs.

During the firing test a number of ballistics exercises were performed. The pistol compared to a S&W 6in revolver, and it was determined that the loss of power was marginal with the Eagle (Remington High Velocity FMJ, 364m/s with the Eagle compared to the 385m/s with the S&W; Winchester Lubaloy, 389m/s in place of 396m/s). Aguila ammunition was too weak to assure the proper cycling, the slide not moving completely and the head of the bolt not passing behind the upper cartridge of the magazine.

The trigger pull was not bad nor very good, with its 3kg. The practical test was restricted by the fact that only one magazine was available, and by the absence of any holster accepting the pistol, except for a very good Cordura external shoulder holster not made for quick draw but just for easy carrying of the pistol.

Shooting tests were made with numerous different ammos, with the – too weak – Aguila and handloaded cartridges occasioning numerous improper feedings.

You should be aware that, at the end of 1985, a semi-confidential document stated that the manufacturer would guarantee complete reliability with only four commercial loads: Remington R357 M2 or M3 158gn, Winchester X357 4P or 5P 158gn, Federal 357A or E, and CCI 3959 or 3960. Our tests allow us to add to this list the French SFM, the Winchester Lubaloy, the Norma SWC FMJ and the Sako.

All the manipulations required of the gun are easy . . . with not too tiny hands! The width of the grip is 65mm, compared to the 53mm of a High-Power or 55mm of a CZ . . . (A young girl had no problems mastering the Eagle, except for the manipulation of the slide stop. In the latter instance, even the strongest present at the test were unable to use the slide stop with only one thumb.)

Groups obtained are good, and the gun recovers very well after each shot due to its impressive weight.

Some questions arise concerning the combat use of this gun. The Eagle is cumbersome and is definitely not a 'standard' police or defence weapon (service in plain clothes is completely excluded, and even the average uniformed policeman would not be too happy to carry this on his belt for many hours a day). Furthermore, the Eagle will never be a fast gun to put into action: it is impossible to carry the gun safely with a chambered cartridge and without the inaccessible safety 'on'. But the Eagle could well be a winner for special units like SWAT or HRT, which always go into action with the gun already in their hand; while the fact that the ammo will be the same for both the SWAT men and the other police officers equipped with revolvers, could be appreciated by any official in charge of the supply . . .

At the end of 1991, IMI decided to go a step further into the 'monster guns' when introducing a new .50 Action Express calibre, which was, by the way, the very first semi-auto cartridge chambered in the Israeli pistol, using the same trick as the .41AE: the bottom of the cartridge is restrained to the diameter of the .44 Magnum. The bullet, a 300gr semi-jacketed flat nose, has a muzzle speed of 1300f/s, offering an IPSC power factor of 390 (feet × weight in grains divided by 1000; just remember that the 'major' power factor floor is 175).

The modifications to the gun are very slight: the grip is a bit larger to accommodate the gigantic cartridges, and the tube containing the fixed barrel is equipped with a large flat rib taped for any optical sighting system. Like all Desert Eagles of the latest production, the .50AE is equipped with an adjustable trigger, but it is already extremely crisp out-of-the-box.

The .50AE Desert Eagle is acceptably easy to control and incredibly accurate, but the shooter must be aware that too long shooting sessions with this calibre could generate micro-traumatisms in the whole of his strong arm.

The Desert Eagle field stripped, with its load of nine .357 Magnum. A tenth round can be chambered, giving the pistol impressive fire power.



The manual safety, placed on the slide, has to push up for the fire position. This manoeuvre can be slow.





The Desert Eagle in the hands of René Smeets, showing the exceptional size of this pistol. Both thumbs are used to activate the slide stop. Note the rotating bolt, showing the lugs.



Left view of the Desert Eagle .50AE; the grip is slightly larger to accommodate the big cartridges, and the wide top rib is taped for any optical sighting system.



On the left, the 'monsters' (.50AE, .454 Casull, .45WinMag).

IMI Jericho 941

Type: double-action semi-automatic pistol.
Maker: Israel Military Industries (IMI).
Calibre: 9mm Parabellum/.41 Action Express.
Overall length: 206mm, 8.125in.
Barrel length: 111mm, 4.375in.
Weight, empty: 930gm, 2lb/1.0oz.
Magazine capacity: 15+1 (9mm Para), 10+1 (.41AE).
Construction: all-steel, fixed sights with tritium inserts.

The CZ75/85 shares with the Colt 1911A1 the dubious honour of being the most copied pistols in the world.

For long banned for political reasons in the United States where its reputation attracted a wide interest in law enforcement, personal defence and shooting circles, the CZ75 inspired Colonel Jeff Cooper's unfortunate attempt to conceive the 'best ever' pistol under the name of Bren Ten (with at least the meritorious introduction of the new 10mm calibre, now existing in three different forms, 10mm Auto, .41AE and .40S&W).

Then, the Italian manufacturer Tanfoglio began to produce a long line of models directly copied from the Czech pistol; the perfection of the CZ was demonstrated again by the simple fact that, after having attempted first to introduce another system of manual safety (in the form of a decocking lever placed on the slide), the problems arising with that system forced Tanfoglio to backpedal quickly to return to the exact CZ75 system, the only differences being in some slight changes in the shape of frame and slide and in the thickness of some parts and springs. Having mastered initial case-hardening problems on their slides, partly due to the introduction of the then new .41AE cartridge developing very high pressures (that cartridge has been improved

by its manufacturer, and consequently is much more acceptable in handguns, although still on the 'hot' side), Tanfoglio sub-contracted with different companies, producing parts or even complete pistols under their brand: the Swiss ITM company marketed full-size and compact Tanfoglios under the name AT84 and AT88 (the same company, included since in a large group named Sphinx, is now producing its own pistols, even on the same basic models). And the successful (1990 IPSC World Champion Doug Koenig and third-place winner Rob Leatham used both largely customized P9s) American Springfield Armory P9 is nothing more than a Tanfoglio with domestic-made barrel.

Another European maker, the British JSL company, produces also a more than very close stainless steel copy of the CZ75, under the name 'Spitfire'.

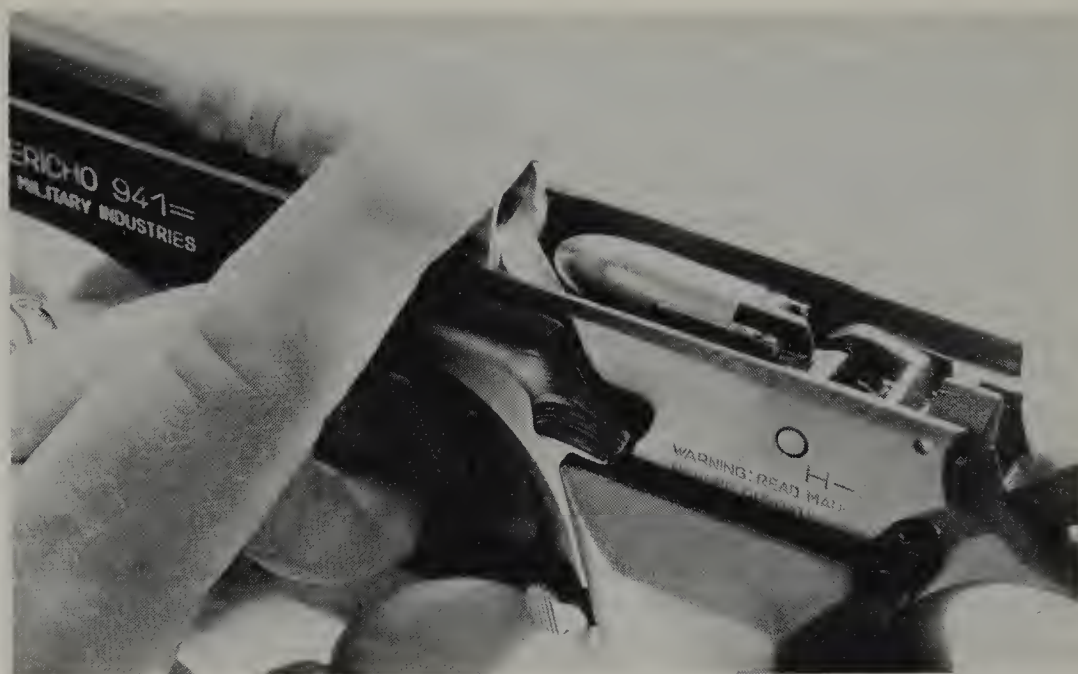
In 1989, without prior notification, a new Israeli pistol appeared suddenly at the German IWA, the largest European gunshow held every year in Nuremberg; under the biblical name of 'Jericho', it seemed at first sight to be a down-scaled 'Desert Eagle'. Close examination and field stripping of the Jericho showed that it was, in fact, another copy of the CZ75, and again made by Tanfoglio; the gun bears, moreover, no indication of being made in Israel. Surprisingly enough, IMI had selected the old Tanfoglio model with its slide decocking lever and its strangely shaped (and not very strong) slide stop.

Nevertheless the Jericho had some extremely interesting features, including the full-length guide rails resulting from the adoption of a slide and lengthened frame modified to give the pistol a very attractive 'Desert Eagle-shape'. The long guides give, as was discovered by the shooting test, a greatly improved accuracy, together with the excellent polygonal rifling of the Israeli-made barrel, the only non-



The Jericho 941 in its plastic box; this sample does not include the conversion unit, and is from the first production model with the old Tanfoglio TA 90 inspired slide stop and slide-mounted decocking lever, which retracts the firing pin while decocking the hammer.

Proper feeding, in both calibres, is ensured by the excellent CZ75 conception; the design of the .41AE with its bottom part restrained to 9mm dimensions allows the use of the same ejector.



The trigger guard of the Jericho is oversized for most standard holsters; the test was performed with a full gear (duty belt with special loops to use it over another belt, holster, magazine pouches) conceived and manufactured in genuine DuPont cordura by the renowned French maker 'GK Productions International'.



Tanfoglio part of the Jericho. Also very efficient are the tritium inserts of both sights, allowing an excellent sight picture in extremely dark conditions, providing the target only – and not the pistol itself – is illuminated by the flashlight held by the shooter in any convenient (Harries or other) style. The last – but definitely not least – difference is the new shape of the grip, by far the very best this author has ever experienced on any modern handgun.

Another characteristic, borrowed this time from Tanfoglio itself, is the possibility of a very simple conversion from 9mm Parabellum to .41AE while exchanging only the barrel and its return spring and guide unit; that possibility is due to the conception of the .41 Action Express cartridge conceived by Action Arms, whose bottom and rim are restrained to 9 Para dimensions, allowing the same slide, percussion block's head, extractor and ejector to be used at the price of a slightly slimmer .41AE barrel wall. Originally Tanfoglio experienced some problems with the magazines, but a minor change on the follower succeeded in providing perfect feeding with both calibres. IMI propose a full conversion pack in an attractive and well-conceived transport box; consequently, the Jericho was renamed '941' to mark its double calibre.

The Jericho was tested in its 9mm capacity in very realistic conditions during what is probably the best European police shooting contest, held in Liège (Belgium) every other year. Contestants, with their service weapons and gear, are confronted with successive realistic situations involving almost any kind of problem law enforcement officers could meet, and have to resolve it with a handgun in different environments: outdoor, indoor, hostage situations, soft and hard covers, house clearings, runners, pop-up targets, windows, corners, supermarkets, restaurants, entirely dark warehouses, use of different weapons (including jammed pistols, revolvers to be reloaded, shotguns) taken from 'dead' colleagues lying on the ground, shooting

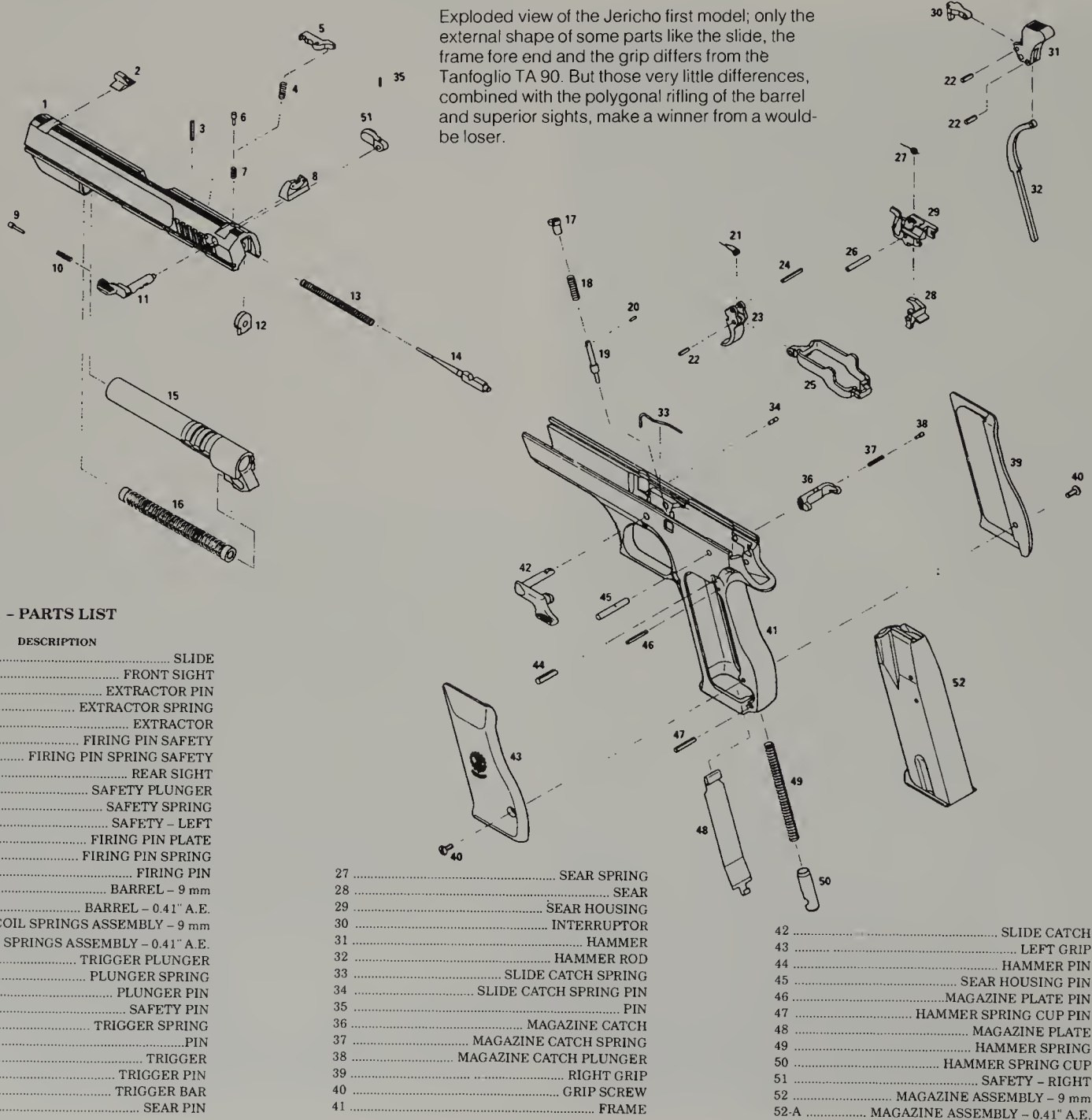
from moving cars. All targets are extremely realistic including three-dimensional dummies, and their kill-zones are not generous, any mistake being severely penalized, and few of even the most experienced professionals emerge with a perfect, or even near perfect score.

The Jericho did extremely well, due to its fabulous sights and grip shape, and extremely difficult fast-moving targets were double- or triple-tapped in the K-zone without hesitation once identified as hostile, the gun giving, faster than any other, an excellent sight picture. With the fully guided slide and the polygonal barrel, the accuracy is incredible for a service class handgun. The only point to remember is not to use weak ammo, which will not allow the slide to return sufficiently to chamber the next cartridge; but the advantage of a strong return spring is that the recovery is very fast, on a gun whose recoil already feels very light. Converted to .41AE in a matter of seconds, the

sample test gun performed flawlessly, but that calibre is not as enjoyable to use as the softer 9 mil.

Some French municipal police departments have already adopted the Jericho, and at least one top IPSC French shooter uses with success the .41AE version. Since 1990, IMI has considerably improved the slide stop and introduced a model equipped with a classical frame-mounted manual safety. The new model is thus, like the CZ75 from which it stems, to be carried either in 'condition one' or with the hammer decocked (by pulling carefully the trigger while slowing the hammer motion with the thumb, the gun being pointed in a safe direction), the first shot being then fired in double-action. An IPSC model with a two-tone finish includes even a long bar-type magazine catch.

This author is rating the Jericho as one of the two best combat pistols of today, the other being the Glock.



Korth Combat Magnum

Type: double-action revolver.

Maker: Waffenfabrik W. Korth, Ratzeburg/Holstein, West Germany.

Calibre: .357 Magnum/.38 Special, or .38 Special only.

Overall length: depends on model.

Barrel length: 75, 100 and 150mm (3-6in).

Weight, empty: not available.

Cylinder capacity: 6 (5 in older models).

Construction: blued or stainless steel, semi-adjustable (Combat) or fully adjustable (Sport) back sight.

An optional 9mm Parabellum variant is available. Blued guns have ventilated ribs; stainless guns, a plain sighting band above the barrel.

Handgun fans are often aware of the existence of the 'mythical' Korth revolvers, made by a constituent of the Dynamit Nobel Group, but very few have ever had the chance to shoot this veritable Rolls-Royce of revolvers. It is said that only five hundred are made each year, and that the fortunate customer has to wait some months for delivery.

However, the reward for the delay is worthwhile; the first sight of the gun is enough to convince the purchaser of the truly excellent manufacturing quality. Not only is the metal first class, but all the surfaces, including the internal parts, are highly polished to give an exceptionally smooth action.

The latest Korths are not unlike the Colt Python or L-Frame Smith & Wessons externally, and this aesthetic appeal is accompanied by excellent balance. The only originality that is immediately obvious is a cylinder release alongside the hammer on the right side. Pushed forward with the thumb of the firing hand to unlock the cylinder, this catch is badly placed and greatly inhibits rapid reloading. The quirky location is believed to result from the complexity of the internal mechanism (with more than seventy parts in all) leaving no room for a more conventional Colt or Smith & Wesson-style latch on the left side.

Closer examination reveals many more interesting features. Once the cylinder has been unlatched, for example, it can be removed simply by pressing the button on the right side of the frame above the trigger guard – simplifying

cleaning or the substitution, without tools, of the optional 9mm Parabellum cylinder. The cylinder-locking system is also unique, the cylinder axle being pushed rearward by the spring-loaded ejector rod to force a stud into a recess on the shield. This gives a positive lock, while minimizing the gap between the front of the cylinder and the barrel (about 0.05mm) that would otherwise reduce velocity, power and accuracy.

The single-action trigger pull can be adjusted externally between 1 and 2.5kg (2.2-5.5lb) with a threaded bolt inside the trigger guard. The test gun was delivered with a factory-set pull weight of 1.4kg (3.1lb), which is excellent and not, in my opinion, in need of modification. The trigger travel is also adjustable externally, but requires simultaneous adjustment of two opposed threaded bolts and is better left to a qualified armourer.

Though many authors have written about the Korth, it is clear that few actually saw the inside of the gun, owing to the difficulty of removing the cover plate. This is not only fitted extremely tightly, but it requires a special tool (and the services of an expert gunsmith!) to remove it. Though such dismantling is rarely necessary once the trigger is properly adjusted, it is worthwhile to see not only the perfect polish of the internal parts but also the unique design of the trigger mechanism. The extraordinary smoothness of the double action results from the internal finish and the telescoping mainspring, giving a pull of 3.5kg (7.7lb). The trigger travel becomes progressively smoother, with no hard point to overcome nor any backlash. The Korth revolver is sold with five rollers of differing diameter, giving different progressive actions though – once again – replacement is best done by a competent gunsmith.

Needless to say, the Korth is exceptionally pleasant to fire, even in double-action mode and .357 Magnum chambering. The grip is very good, and the gun easily controlled (helped, undeniably, by the 6in barrel of the test gun). The revolver is certainly not a European specialty; however, with guns such as the Manurhin MR 73 and the Korth, the Old World nevertheless has two products to compete with the best of the Americans.



The beautiful Korth stainless steel 'Sport' .357 Magnum, with a 6in barrel. The unimpeachable manufacturing quality is clearly evident.



The cylinder, grips and side plate of this blued Korth have been removed. The side plate is particularly carefully fitted, and may need the services of a gunsmith to detach it; consequently, the working parts of Korth revolvers are rarely revealed. Note the unique telescoping mainspring shroud.



The cylinder of Korth revolvers may be removed in seconds, without tools, simply by pushing a button above the trigger guard on the right side of the frame once the cylinder has swung outward.

The handling and balance of this old-pattern Korth (note the half-length ejector) are perfect. The holstered gun is an H&K P7M13.



This impressive double-action group was obtained from the Korth at 25m.

Llama M-82

Type: double-action semi-automatic pistol.

Maker: Llama-Gabilondo y Cia, Vitoria, Espana.

Calibre: 9mm Parabellum.

Overall length: 209mm, 8³/₄in.

Barrel length: 114mm, 4¹/₂in.

Weight, empty: 1,110gm, 39oz.

Magazine capacity: 15+1.

Construction: all-steel, fixed sights.

A version with a light alloy frame also exists (weight, empty: 875gm, 31oz).

From the M-82 was evolved the M-87, which is one of the very rare factory compensated pistols, intended for IPSC shooting: the overall length is 245mm/9³/₄in, the barrel length is 134mm/5¹/₄in, and the weight, empty, is 1,2335gm/43.57oz. The M-87 is equipped with a thumb safety placed at the rear of the frame on the left side, allowing the gun to be carried in 'condition one', the first shot being then fired in single action; other differences include oversize front sight and combat rear sight, extended beavertail on the grip, extended 'bar type' magazine catch, trigger stop, and magazines factory-equipped with bumper pads.

The Llama M-82 is one of several Spanish pistols borne on the wave of the JSSAP, including the main characteristics of the new breed introduced at the beginning of the 1980s: 9 mil, double-action, large capacity.

Externally, the gun has a modern squared look with ergonomic trigger guard and plastic grip; but the first manipulation of the slide gives immediately the very well-known feeling of a barrel moving longitudinally, and the field stripping leaves no doubt that the new Llama, totally different for all the previous large bore models proposed by this manufacturer (mostly copies of the Colt 1911), is mechanically speaking a slightly adapted Beretta 92!

The differences between the Beretta and the Llama are few, the most obvious being the slide without the large typical Beretta upper cutting; internally, the Llama has no

firing-pin safety and its mainspring housing is removable. For the rest, the Spanish pistol is very very close to the Italian one, including the typical locking/unlocking system, the similar decocking/safety ambidextrous lever on the slide, and the field stripping. None of the manipulations of the Llama came as a surprise to anyone familiar with the Beretta, including the fact that only powerful cartridges will ensure that the slide is blocked by the slide stop after the last shot. Double-action pull course and weight (6.5kg/14.3lb) were acceptable on the sample test gun; single-action weight was very good (2.2kg/4.84lb) and crisp, after a dead course of 2mm, but the absence of any anti-backlash device is terribly punishing for the trigger finger. Sights are not bad but too small and, once again, the white three-dots are not very well-conceived, the front sight's dot being too large to be properly aligned with the other two, and they literally catch the light; when speed is paramount, the shooter has therefore a tendency to align the big front sight dot with the upper edge of the back sight, aiming and shooting too high, which could be disastrous in serious situations.

The Llama is very accurate, and the sample gun gave excellent results up to 30m with different ammunition, including Hirtenberger standard and 'Combat', FN, Kettner (Yugoslav Partizan sold in Europe under the brand of that German wholesaler), CCI Blazer, IMI Samson and PMC, all FMJ.

Exceptionally, although competition guns are not the purpose of this book, I'd like to make some comments about the compensated M-87, since it was, at the time of writing, the only factory out-of-the-box compensated gun that had been successfully proven in serious IPSC competition (new models were recently proposed by CZ and Bernardelli, among others, but not yet field-tested). Modifications are minor except for the compensator, including an

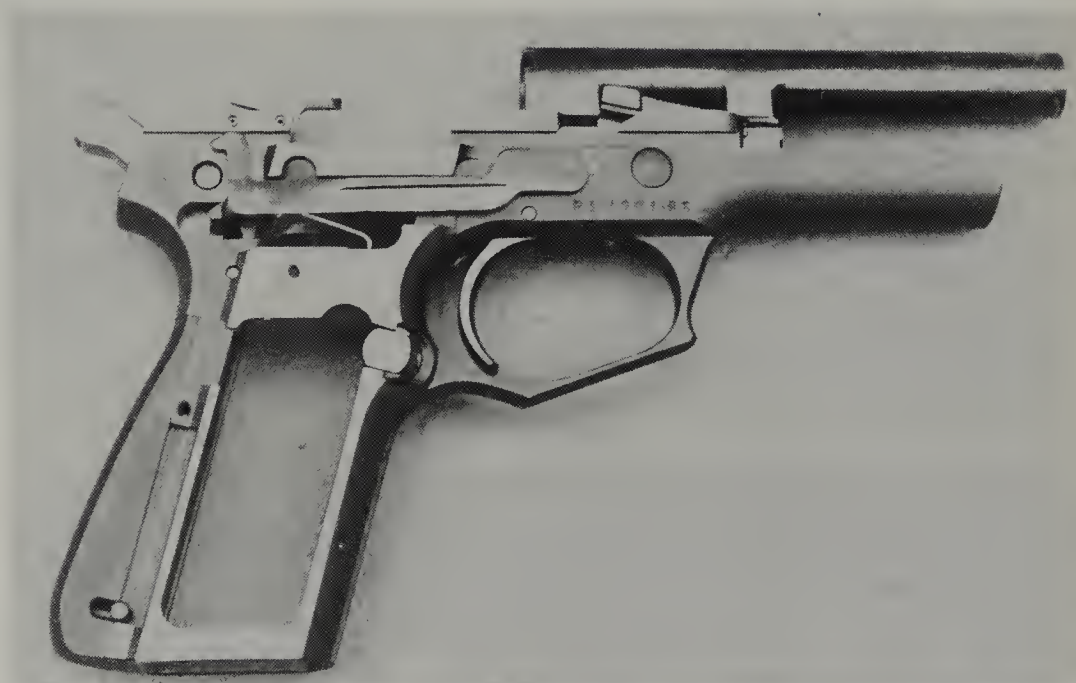


Right-hand view. Although externally different, the Llama shows, even before field stripping, some similarities to the Beretta 92, including the trigger bar.

Left-hand view. Note the modern 'squared' look of the pistol.

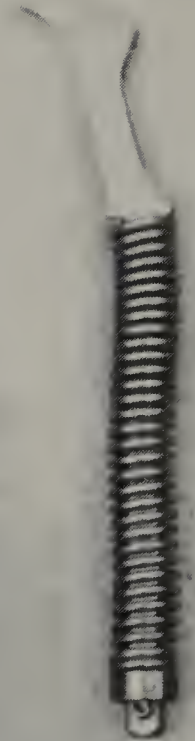
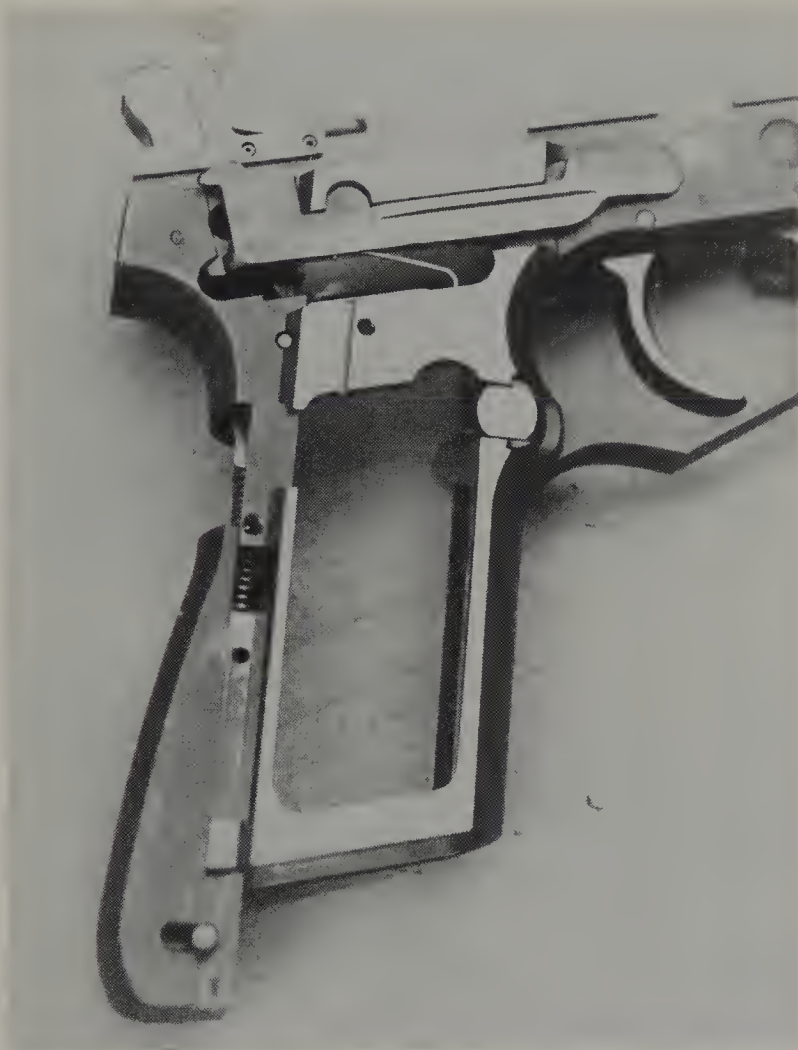


Slide and grips removed, and barrel in place on the frame, the secret of the Llama M-82 is revealed: it is nothing more (or less) than a Beretta!



Field stripped, the wings of the locking/unlocking system are clearly visible.





Detail of the removable mainspring housing. The Llama M-87, the only factory-compensated pistol already proven in competition, here 'cocked and locked'; note the compensator, the special two-tone finish (frame is nickel-plated), the manual safety on the frame, the beavertailed grip, the bar-type magazine catch, the adjustable trigger stop, and the bumper pad factory-equipped magazine.

excellent adjustable trigger stop which gives a fantastic trigger pull, a beavertailed grip, an extended bar-type magazine catch and the fact that the decocking lever, still present on the slide, is deactivated to allow the gun to be carried 'cocked and locked'. The gun is extremely accurate and the recoil is so well-compensated that it moves when shooting, literally not allowing easy double and triple taps at

15m. If chambered in the newly acclaimed 9×21 IMI calibre which is easy to upgrade to major power factor with proper hand-loaded cartridges (and at least one manufacturer already proposes factory +P+ ammo), this gun would avoid the old IPSC choice 'major factor OR large capacity' for a very reasonable price since almost no customization is necessary.

Makarov

Type: double action semi-automatic pistol.
Maker: Russian, Polish, East German and Chinese arsenals.
Calibre: 9×18mm.
Overall length: 157mm, 6.18in.
Barrel length: 93mm, 3.66in.
Weight, empty: 700gm, 24.7oz.
Magazine capacity: 8+1.
Construction: all steel, fixed sights.

The Makarov pistol is still the most widely distributed military handgun in the Eastern Bloc, though recently superseded in Russian service by the 5.45mm PSM. Its distinctive cartridge — known in the West as the 9mm Makarov — has also been used in the obsolescent Soviet Stechkin selective-fire pistol (APS) and the current Polish wz/63 machine pistol.

Developed immediately after the Second World War had ended, possibly from the German 9mm Ultra prototype, the cartridge was intended to be less powerful than the then-current 7.62mm pattern used with the TT (Tokarev) pistols. Similar ammunition has been made in Europe under the Geco and Hirtenberg brandnames as the '9mm Police', for pistols such as the Walther PP Super and the SIG-Sauer P230. The Makarov pistols will usually fire 9mm Makarov, 9mm Police and even 9mm Short (.380 ACP) with reasonable accuracy.

The Makarov — by no means as large as it appears when photographed by itself — is, ultimately, a derivative of the Walther Polizei Pistole of 1929: a fixed barrel, double-action blowback, with the recoil spring concentric with the barrel, a trigger-guard lock controlling dismantling, and a safety placed on the slide. It is a simple design, containing (excepting the magazine) only 25 parts including the screws and springs. The manufacturing quality is quite good, with few tooling marks. The butt is an interesting design, with a

squared skeleton and a one-piece plastic grip retained by a single screw through the backstrap. The general shape of the grip is very good, allowing a comfortable grasp.

The mechanism is classically double action, the sole concession to originality being the combination slide stop/ejector. As the slide stop does not double as a dismantling pin, it can share the trigger spindle to reduce the number of parts still more.

Light, well balanced and eminently concealable, the Makarov could have been a very good combat pistol. However, the cartridge is not very powerful — only marginally superior to the .380 ACP — and would only provide adequate 'stopping power' if loaded with special bullets. The magazine capacity is also too small by contemporary standards. The major problem would have been the absence of original factory-loaded ammunition, had not the Makarov fired 9mm Police and 9mm Short without trouble. Accuracy was very good, even though the bullet diameter of 9mm Police/Short cartridges is slightly less than genuine 9mm Makarov; thus, the effect of the rifling is commensurately reduced and smaller than normal bullets tumbled into the target at 15m.

The manual safety allows the gun to be carried cocked and locked ('Condition One' carry). In the absence of an automatic de-cocking system, the hammer must be lowered manually by the thumb after the trigger has been pulled. (NB: the gun should be pointed in a safe direction!) No safety notch exists on the hammer base, but as the hammer — like that of the Walther PP — is securely held in the down position, there is no danger of accidental discharge. The trigger pull is good (2.5kg/5.5lb single action, and 5.5kg/12.2lb double action) with excellent travel.

It is unlikely that many people will have the opportunity of firing these little pistols; but, if 'Red Dawn' ever occurred, just remember that the Makarov can shoot 9mm Police or 9mm Short . . . but that Western guns chambering these cartridges *cannot* fire Soviet-type 9mm rounds.

A right-side view of a typical Soviet-made pistol, made in Tula in 1975. The position of the trigger within its guard betrays the existence of a double-action mechanism.





With the one-piece grip removed, the Makarov shows its distinctive frame construction.



Field-stripped, the Makarov clearly shows its Walther inspiration.



A two-hand grip emphasizes the Makarov's small size.



Though the original 9mm Soviet cartridge gives the best accuracy, the Makarov will still shoot ammunition such as the 9mm Police or 9mm Short capably. The 'chest' group shown here was achieved with 9mm Short (.380 ACP) from a distance of 20m.

Manurhin MR 73

Type: double action revolver.

Maker: Manufacture de Machines du Haut-Rhin (Manurhin), Hendaye, France.

Calibre: .357 Magnum/.38 Special or 9mm Parabellum.

Overall length, barrel length, empty weight: see notes.

Cylinder capacity: 6.

Construction: blued steel, various sights (see notes).

The **MR 73 Défense**, with fixed sights, is available with barrels measuring 63, 76 and 102mm (2.5-4in), giving an overall length of 195, 205 and 233mm (7.68-9.17in) and weights of 880, 890 and 950gm (31.0-33.5oz).

The **MR 73 Constabulary** has an adjustable back sight and five optional barrel lengths – 76, 102, 132, 152 and 203mm (3-8in). The overall lengths are 205, 233, 264, 283 and 334mm (8.07-13.15in) respectively, the weights being 890, 950, 1050, 1070 and 1170gm (31.4-41.3oz).

The **MR 73 Sport** has an adjustable back sight and a high squared front sight. Barrel options include 102, 132, 152 and 203mm (4-8in), the remaining data being identical with the Constabulary model.

Special **Match Models** exist in .32 Long (152mm/6in barrel) and .38 Special (145mm/5.71in), with specially honed trigger actions. The **Long Range** and **Silhouette** guns have 230mm (9.06in) and 275mm (10.83in) barrels respectively, the latter especially designed for metallic silhouette shooting. The GIGN, the special intervention group of the French national constabulary, uses a version of the 203mm-barrelled gun with a folding bipod.

France was the birthplace of many of the greatest European revolvers, such as the pinfire Lefauchaux, the 'Chamelot-Delvigne' and the excellent French Mle 1892 ('Lebel') service revolver. The Mle 1892, among the first small-calibre revolvers to be accepted for service, served the French Army until the mid 1930s. Though large numbers of foreign automatics had been purchased by the French during the First World War, and it had been admitted that the revolver's days were numbered as early as 1922, trials lasted almost until the outbreak of the Second World War. The two principal competing designs, the Mle 1935A and Mle 1935S, were ordered into limited production to facilitate field trials. Both were designed for the very weak 7.65mm Longue cartridge, the Mle 1935S ultimately evolving into the 9mm Parabellum MAC-50 (the current French service gun, unavailable on the commercial market) and the Mle 1935A into the SIG P 210. Both guns embodied the Petter system, named after the engineer responsible for the removable trigger system.

Not since 1892, therefore, has a single new revolver been created in France. During the 1960s, the success of the Sasia Method revived interest in such guns and so, in the early 1970s, Manurhin introduced the MR 73. The company had already made variants of the Walther P38, PP and PPK under licence.

One of the aims of the new gun was to embody the two main service calibres already adopted, .38 Special/.357 Magnum and 9mm Parabellum. Using an automatic pistol cartridge in a revolver was not new – more than 300,000 .45 ACP Colt and Smith & Wesson revolvers had been made during the First World War – and a 9mm Parabellum S&W copy had been made by Israeli Metal Industries in the

1950s. The Manurhin MR 73 and the comparatively unsuccessful FN 'Barracuda' have taken the concept still farther, providing exchangeable cylinders for the rimmed and rimless cartridges.

To an untrained eye, .38 Special and 9mm Parabellum seem approximately the same size, and it is possible to shoot them both through the same barrel. However, as the average diameter of 9mm Parabellum bullets is about 0.355in, compared with 0.357-0.358in for .38 Special and .357 Magnum, it is evident that the rifling characteristics favour the bigger bullets.

The MR 73 is a splendid piece of machinery and, if the rare and expensive Korth revolver is the Rolls-Royce of European wheelguns, the Manurhin is at least the Cadillac. The quality and polishing of each part are excellent, the low-friction mechanism is highly sophisticated and the trigger pull is very smooth. The main component is a 'chariot', mounted on four wheels, which rolls inside the frame to transfer a pull on the trigger to the hammer. The system ensures a constant pull during the whole action. The cylinder moves anticlockwise, being released by a Smith & Wesson-style latch. The test gun was a Constabulary model, with a 102mm barrel, an exchangeable 9mm Parabellum cylinder, an adjustable back sight and a post-type front sight. Its trigger has an adjustable anti-backlash screw.

The handling qualities are excellent, the trigger pull being one of the best found on a revolver – the single and double actions measuring 1.9kg (4.2lb) and 3.5kg (7.7lb) on the sample gun. The use of .38 Special in such a revolver gives the best results, while .357 Magnum allows very precise single-action shots at long range combined with accurate double-action rapid-fire at distances up to 15m (using either Sasia's bowling draw and semi-crouch or the straight Cooper's draw and Weaver stance). Exchanging the cylinders is easy; the front screw on the removable side-plate is rotated until the cylinder axis-pin is released, then the whole assembly is removed and instantly replaced by the substitute unit.

One of the main problems encountered in using rimless automatic pistol cartridges in a revolver is retaining them in the cylinder. The usual method is to use full- or half-moon clips, which double as speedloaders, but Manurhin chose to be different and each chamber is provided with two circumferential springs that lock into the extraction groove of each cartridge.

I was not satisfied with the 9mm cylinder; not only were the small-diameter bullets less than accurate in an otherwise excellent revolver but the action also seized up after the first series, preventing the cylinder opening. The problem was caused by two of the chambers, in which the base of the 9mm Parabellum cartridges protruded fractionally farther than the others and consequently rubbed on the back of the frame. The gun worked satisfactorily when only the four remaining chambers were loaded, though ejection of 9mm Hirtenberg and Sellier & Bellot cartridges, particularly,

caused additional difficulty. No problems were encountered in .38 Special or .357 Magnum.

The idea of supplying the exchangeable cylinders is probably none too practical, and mixing rimmed revolver with rimless pistol cartridges adds to the woes. Yet the Manurhin MR 73 is among the best of all the current

revolvers, assuming price is not a deciding factor. (My favourite, the L-Frame Smith & Wesson Model 686, is appreciably cheaper.)

The main defect of the MR 73 is simply the lack of an adequate speedloader, the straight-line (2×3) Manurhin type being unworthy of the name.



The MR 73 'Constabulary' revolver, with a 4in barrel and an extra 9mm Parabellum cylinder.

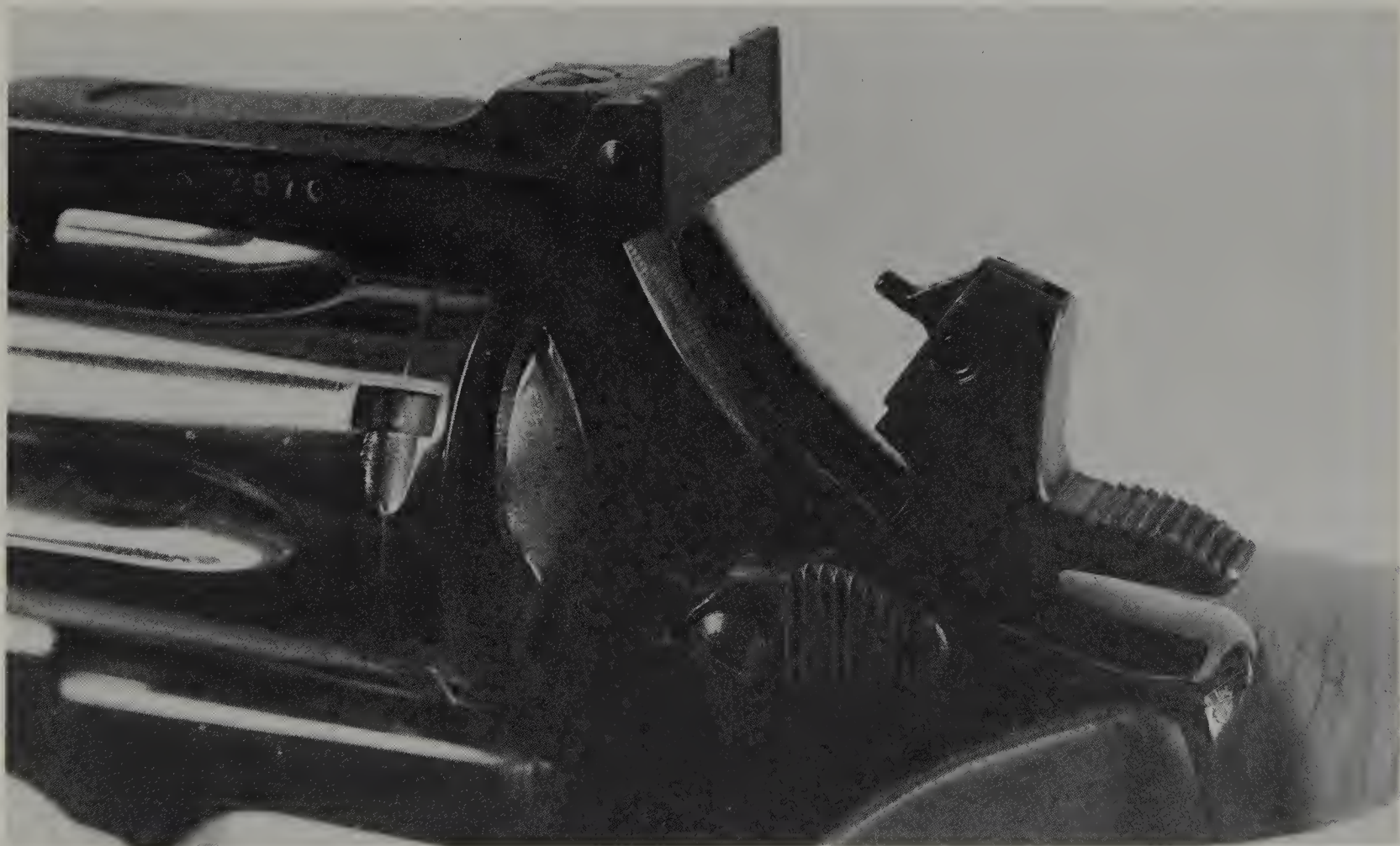


The field-stripped MR-73 is revealed as one of the best-made of all the test guns, with an attention to detail absent from some of its rivals.



The adjustable 'backlash' or trigger-overtravel screw of the MR 73.

The MR 73 has a hammer with an independently pivoting firing pin, an adjustable back sight and a forward-moving cylinder latch.





The MR 73 was tested at medium ranges in accord with the Sasia Method: holster well back on the hip, a two-hand grip and a semi-crouched body position – efficient, but only perfected after extensive training.



This typical Sasia Target has been peppered with the MR 73. On the black circle, upper left: six rounds of .38 Special fired at 25m, one handed; in the 'head', six rounds of .357 Magnum at 15m, single action, with a Weaver stance (note the sixth shot in the ear!); in the body, ultra rapid double-action fire with .357 Magnum ammunition at 7m, after a fast draw; and, in the left shoulder, 6 rounds of 9mm Parabellum at 15m. Firing the Parabellum group occupied three minutes, as one of the chambers caused a potentially calamitous cylinder jam.

Manurhin MR 'Special Police F1'

Type: double action revolver.

Maker: Manufacture de Machines du Haut-Rhin (Manurhin), 'Mulhouse' France.

Calibre: .357 Magnum/.38 Special or 9mm Parabellum.

Overall length: 193, 206 and 231mm (7.6-9.1in).

Barrel length: 63, 76 and 102mm (2.5-4in).

Weight, empty: 918, 950 and 1000gm (32.4-35.3oz).

Cylinder capacity: 6.

Construction: blued (SP F1) or stainless (SP X1) steel, fixed sights.

The 'Special Police' sales are restricted to law enforcement; the same gun is sold to civilians under the brand 'MR 88', with low combat fixed sights for defence models (3in and 4in barrels only), high front sight and fully adjustable backsight for sports model (4in, 5¼in and 6in barrels). All MR 88 have grooved anatomic grips and are offered in bronzed or stainless (bright polished or matte brushed) finish.

In 1981, following a government-sponsored programme, Manurhin decided to produce a cheaper revolver than the excellent MR 73 (q.v.) – which was restricted to some elite units in the police and constabulary, including the GIGN ultra-specialized intervention group. As the French police had been involved with the Sasia Method since the 1960s, and as the MR 73 was the only revolver produced in France, the authorities had been forced to equip with foreign guns made by Colt, Llama, Ruger and Smith & Wesson (including an S&W Model 19 with a 75mm barrel, made to Raymond Sasia's specification as the '19/3 R.S.'). The special 'Presidential Hunting Service' was equipped with the Ruger Speed-Six, specially made for the national police in 9mm Parabellum with a cartridge collector patented by the Frenchman André Pilorget.

When the necessity arose for a less expensive gun, Manurhin associated with Ruger to produce a revolver combining the frame and action of the Speed-Six with a cylinder and barrel provided by Manurhin. The result was the RMR (Ruger-Manurhin-Revolver) 'Special Police', retaining the exchangeable cylinder concept but featuring half-moon clips and standard US-type speedloaders.

The Ruger mechanism is discussed in the relevant section. Dismantling is controlled by the trigger guard, while the cylinder latch is simply pushed in rather than forward (as in the S&W designs and the MR 73) or backward (as in the Colt or Uberti systems). The RMR was well made, though half the price of the MR 73 and obviously exhibiting rougher finish.

The cylinder – which rotated anticlockwise – was entirely new, having to match frames supplied by Ruger. The trigger lacked the smoothness of the MR 73, but the simple and efficient coil-type Ruger mainspring gave a very acceptable pull.

Problems with the royalties being paid to Ruger caused the RMR to be replaced in 1984 by the new 'Special Police F1', made entirely by Manurhin and its affiliates.

However, apart for some important details, the gun remains largely the same as the RMR. One of those important details is that the excellent MR73 cylinder is now simply assembled to the Ruger frame. Another is the new full lug under the barrel, which gives a splendid look to the gun and, adding a lot of weight to the fore end, assures a better stability and recovering after each shot, especially with full-charge 357 Magnum loads.

A third difference is the reversion to a removable side-plate, rather than the unconventional Ruger system. By unscrewing the forward screw of this plate, the .38 Special/.357 Magnum cylinder can be exchanged with the optional 9mm Parabellum unit. The 75mm-barrelled test gun had an exceptional trigger pull (2.5kg/5.5lb in single action, 5.2kg/11.5lb double action) which, though it did not compare with the honed excellence of the MR 73, was none the less more than acceptable in a service gun.

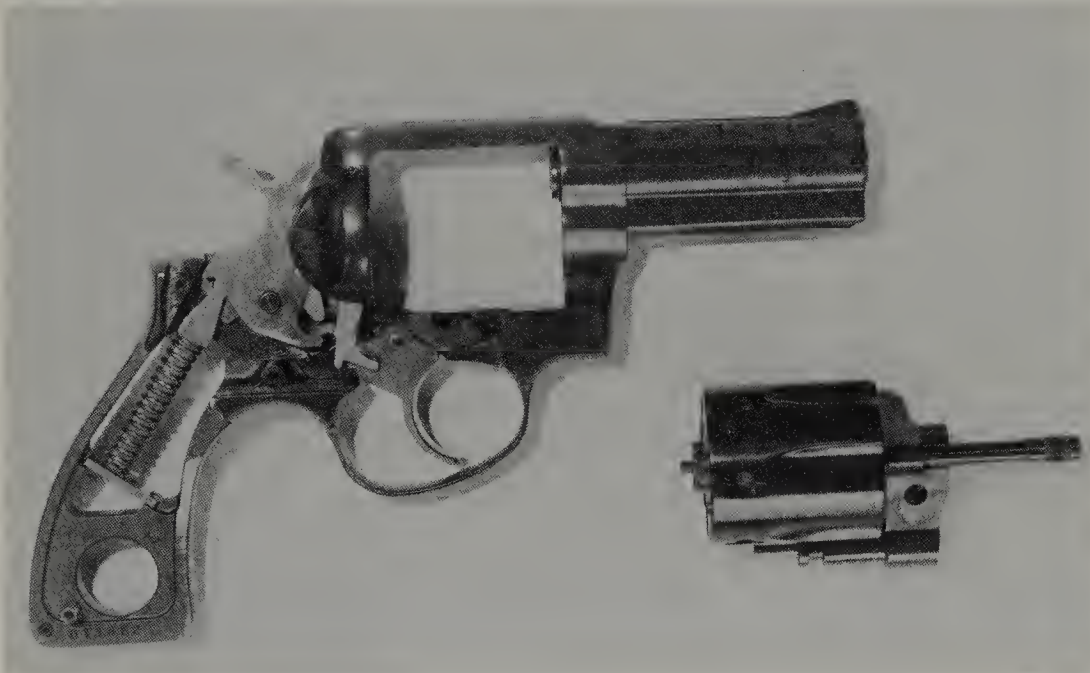
The gun was easily controllable, especially with its large grips, but the combination of .357 Magnum and the short barrel is unpleasant in rapid fire: for this, the 10cm-barrelled option would be preferable. However, the .38 Special was a dream to fire, with the more powerful '+P' loads giving maximum effectiveness. The fixed sights were very good, the flat front sight being developed specifically for the 'bowled draw' and isosceles semi-crouch Sasia Method. For instinctive shooting at ranges up to 15m, the MR F1 'Special Police' is a very good service and personal-defence gun.

The 9mm Parabellum was not tested, though some reports suggest it is a better dual-purpose gun than other revolvers sharing the same principles.

The MR 88 model is much better finished than the 'Special Police' sample gun tested, except for the rough markings and the curious way of showing the serial number by cutting the not too well adjusted grip plates at the butt. The trigger pull is one of the best ever found on revolvers, with a single-action of 1.55kg/3.41lb and a dream of a double-action; sports models with 4in and 6in barrels were tested with different types of ammunition (Sako 357 Mag 158gr SWC, Sako 357 Mag 158gr SJFN, Norma 38Spl WC, Winchester 38Spl 158gr LRN, Hirtenberger 357 Mag 158gr SJ, Winchester 357 Mag 158gr SJSP; handloaded 38Spl with H&N 'plastic coated' 148gr bullets, Winchester Small Pistol primers and 2.6gr French SNPE Ba10 powder). The best results were obtained, not surprisingly, with the hand-loaded ammo, the black of the bulls-eye target being easily kept at 25m with a 4in barrel; but even with the hot Sako 357 Semi-Jacketed Flat Nose, fast shooting in double-action at 7 to 10m will keep the six shots easily in the lethal zone of a realistic target. Undoubtedly, with both 'Special Police' and MR 88, Manurhin kept up the good work and deserves its reputation of making some of the best service and defence (and target, not the subject of this book) revolvers in the world.



The MR F1 with its maker's 'speedloader' — which, however, is far from handy. The revolver is an obvious copy of the Ruger Security Six (q.v.) with a Manurhin-designed barrel and cylinder.

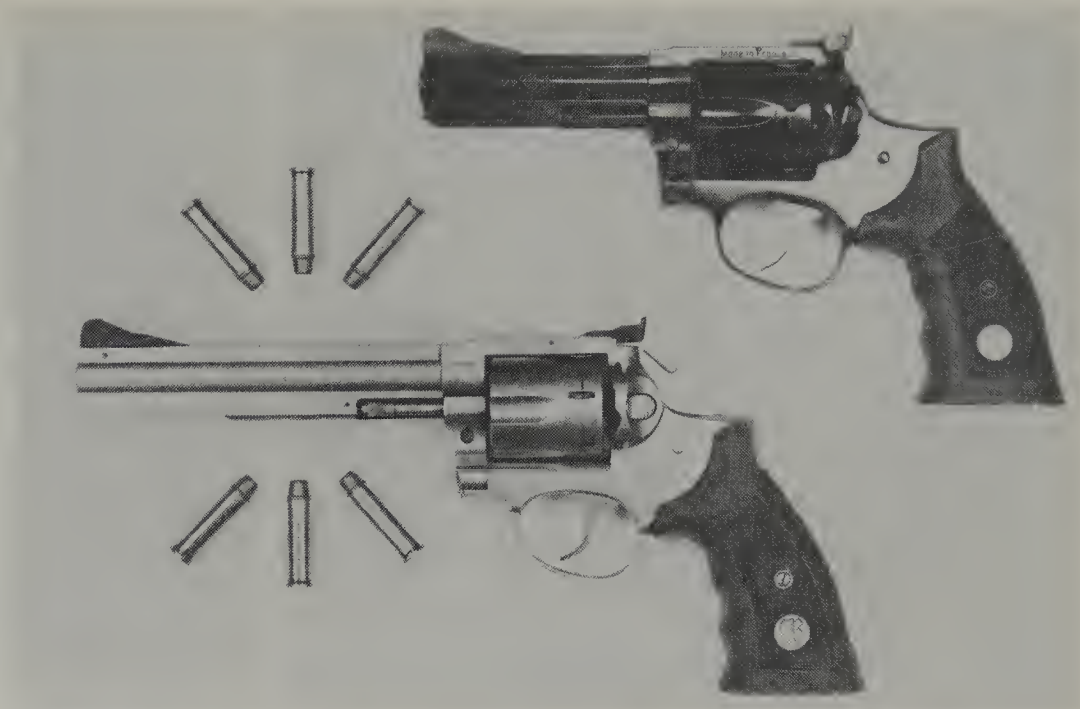


Despite its removable side plate (cf., dismantling the Security Six), the MR F1 reveals its Ruger-style lockwork. Removing the side plate is often difficult.



The action of the MR F1 is not as smooth as that of the MR 73. Though easily enough controlled with .38 Special, firing .357 Magnum may cause hand tremors.

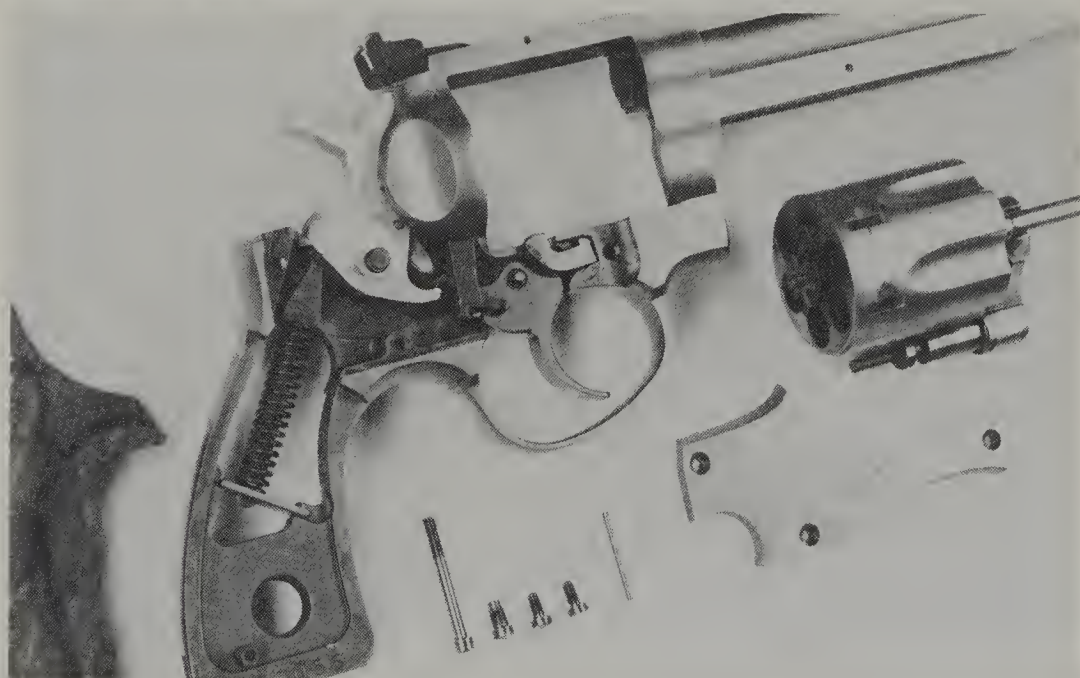
MR 88 in both bronzed 4in and stainless steel 6in: the mixing of the MR 73 cylinder, the Ruger frame and mechanism, and a new full lug under the barrel.

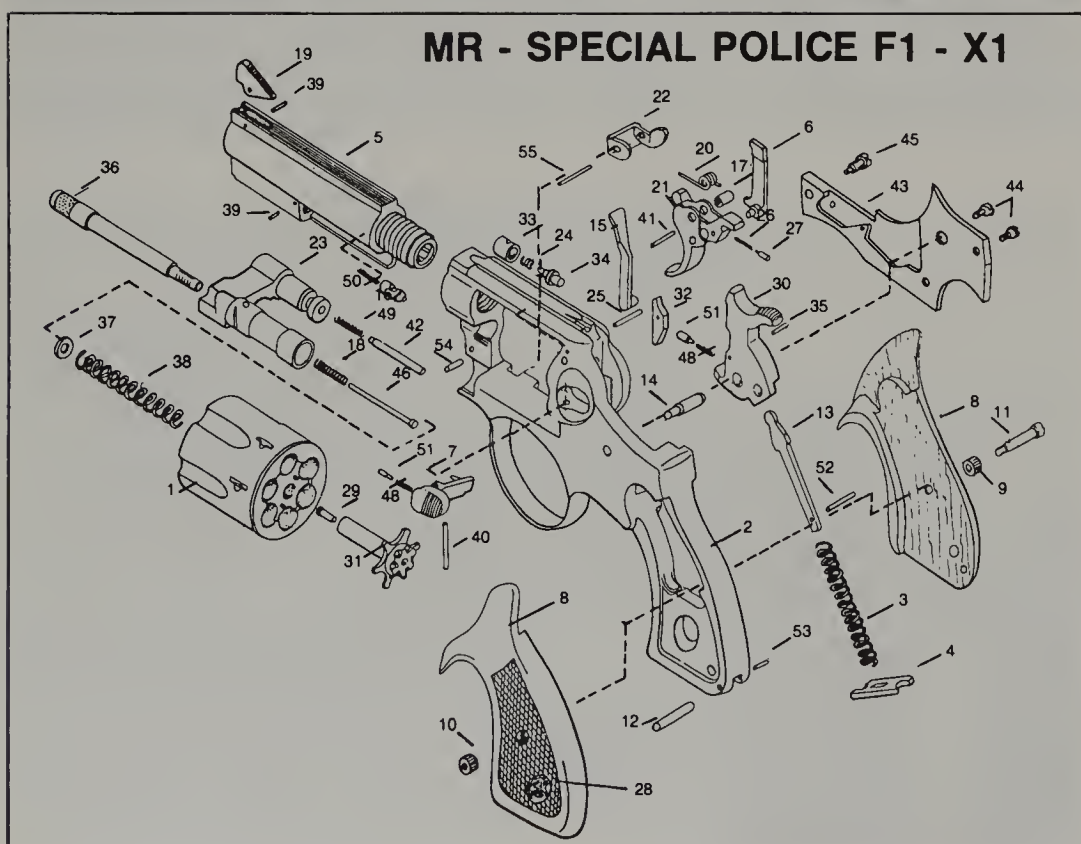
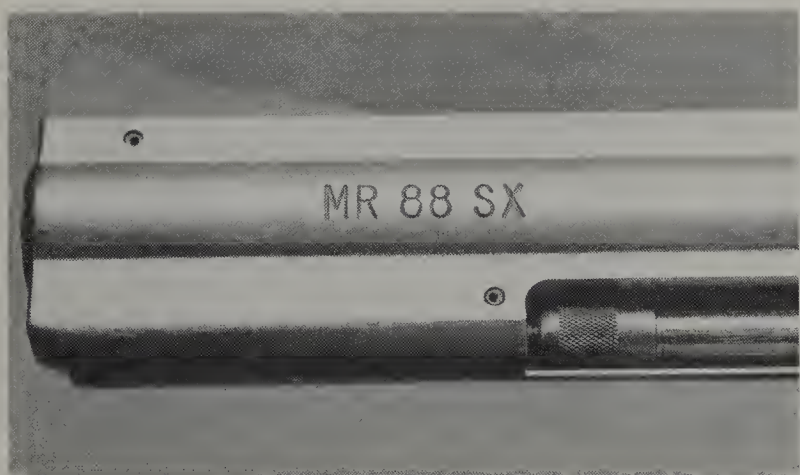
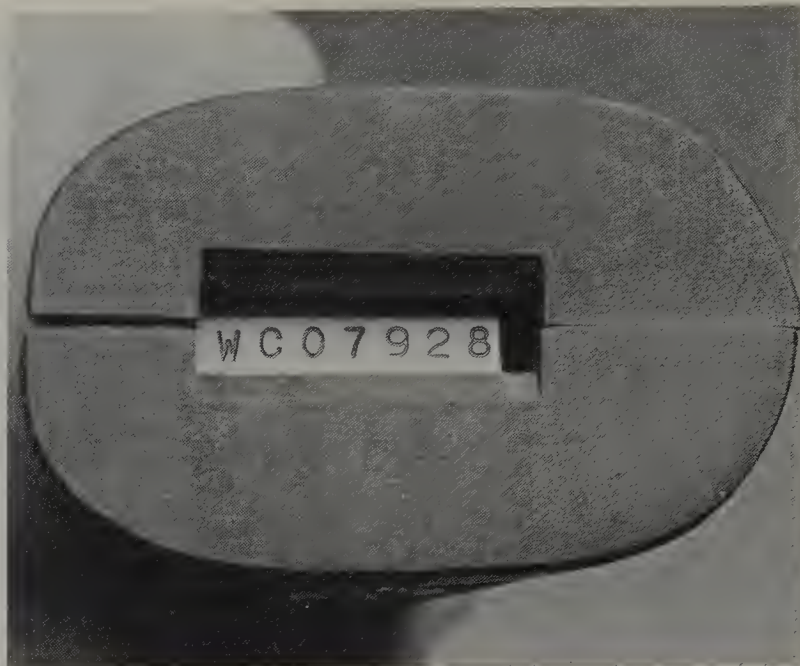
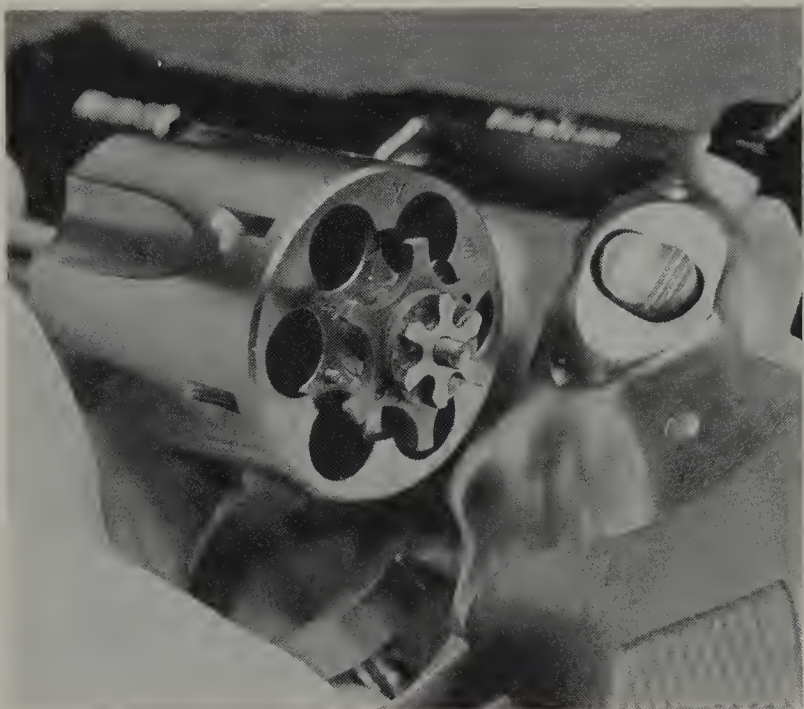


The sporting version of the MR, in stainless with a 4in barrel: the perfect balance of a truly magnificent gun.



Except for the removable side plate, the mechanism of the 'Special Police/MR 88' is identical with the old RMR (Ruger/Manurhin), in fact purely Ruger; the thin pin on the right is for removing the hammer and its spring, and is simply located under one of the grips and is very easy to lose when removing the grips.

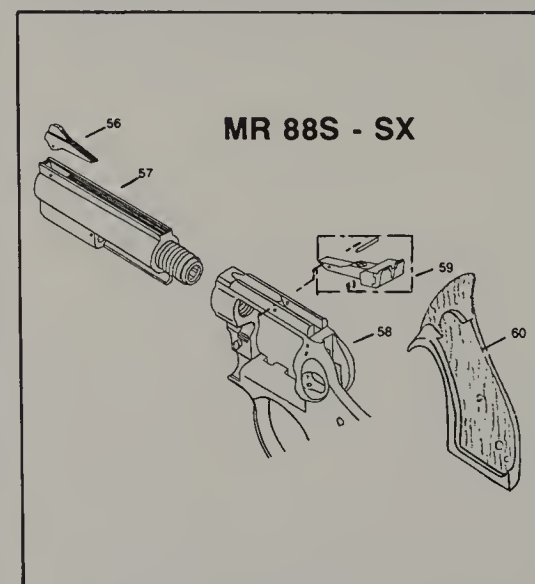




Above: A magnificently finished cylinder, but rough markings and not too well adjusted grips, cut to show the serial number on the butt.

Above: Close-up showing the pin inserted, with hammer cocked, to keep the spring loaded and allow the removal of the hammer.

In the owner's manual, exploded view of both 'Special Police' and MR 88 are illustrated together, the models differing only in their sights and grips.



PA-63

Type: double-action semi-automatic pistol.
Maker: Hungarian State Arms Factories.
Calibre: 9mm Makarov.
Overall length: 173mm, 6.8in.
Barrel length: 95.25mm, 3.75in.
Weight, empty: 581gm, 20.5oz.
Magazine capacity: 7+1.
Construction: blued steel slide with alloy frame, fixed sights.

This basic pistol has been available at various times under different names, but with the dissolution of the old Warsaw Pact, for the first time the actual Hungarian service pistol version, the PA-63, is available in the United States as well as in Europe. Based on the Walther PP, the PA-63 manages to cut weight by using an alloy frame and increase power by being chambered for the 9mm Makarov round, which falls between the 9mm Short round and the 9mm Parabellum round. Since the PA-63 is a blowback, the Makarov is about the maximum load feasible for this pistol. Although hollow point or other special combat loadings are not yet available for the Makarov cartridge, the importation of pistols chambered for the round into the USA makes it likely that one will be forthcoming.

Controls are basically similar to the Walther PP, with a slide-mounted hammer drop safety and a frame-mounted magazine release button. My test pistol came with two 7-round magazines, both serial numbered to the gun; however, I have been told that later US imports may include mismatched magazines. Each of the magazines has a slight finger rest extension, a feature which may aid some in shooting but which hinders concealability. To meet US import regulations, the PA-63 is equipped with 'target grips' having a thumb rest. This hinders handling of the

pistol and interferes with its pointability. It also makes this an especially poor pistol for left-handed use. I would hope to see the importers offering the original grips as an after market item. Consisting as they do of a narrow notch and a post, the sights are very rudimentary compared, for example, to those on the US-made Walther PPK. The top of the slide is cross-hatched to cut glare. There is no loaded chamber indicator pin as on Walther products.

In firing the PA-63, I used Chinese 9 × 18 ammo and found the gun shot rather accurately. My 7- or 8-shot groups, depending on whether or not I topped off the magazine, from 50 feet were running 3-4 inches, with the first round fired double-action. I did, however, find the double-action pull the worst of any double-action auto within memory. It was extremely heavy, then broke unexpectedly. Single-action pull was heavy but crisp enough to make it possible to shoot acceptably with the pistol. I also found that the hold-open device only worked part of the time apparently because magazine retention is a bit loose. Reliability was good, however, as I had no malfunctions in the 48 rounds I fired. All were full metal case service rounds, but since that is all that's available at this time, having a chamber and feed ramp which can handle esoteric hollow points is not a consideration for the PA-63. I should note, by the way, with regard to the ammunition I used that this batch of Chinese ammo is billed as 'mildly corrosive' so I made it a point to clean the gun quickly and thoroughly with GI bore cleaner. As might be expected, due to the combination of the alloy frame and the relatively powerful Makarov ammo, recoil was more noticeable than with a normal .380 Walther PP or PPK. It was not intolerable, though.

Overall, I certainly don't rate the PA-63 in the same league with the Walther PPK; however, it is possible in the USA to purchase a PA-63 for about one-third the cost of a PPK. As a result, I do rate the PA-63 a good bargain. I

PA-63's similarity to the Walther PP is apparent in this photograph. Note, however, the unfinished alloy frame.



think that as a home-defence gun for those who don't do a large amount of shooting but want an automatic of medium power at a reasonable price this could be a viable choice. Due to the low cost of the PA-63 it would make a good pistol for use as a glove compartment gun for those who live

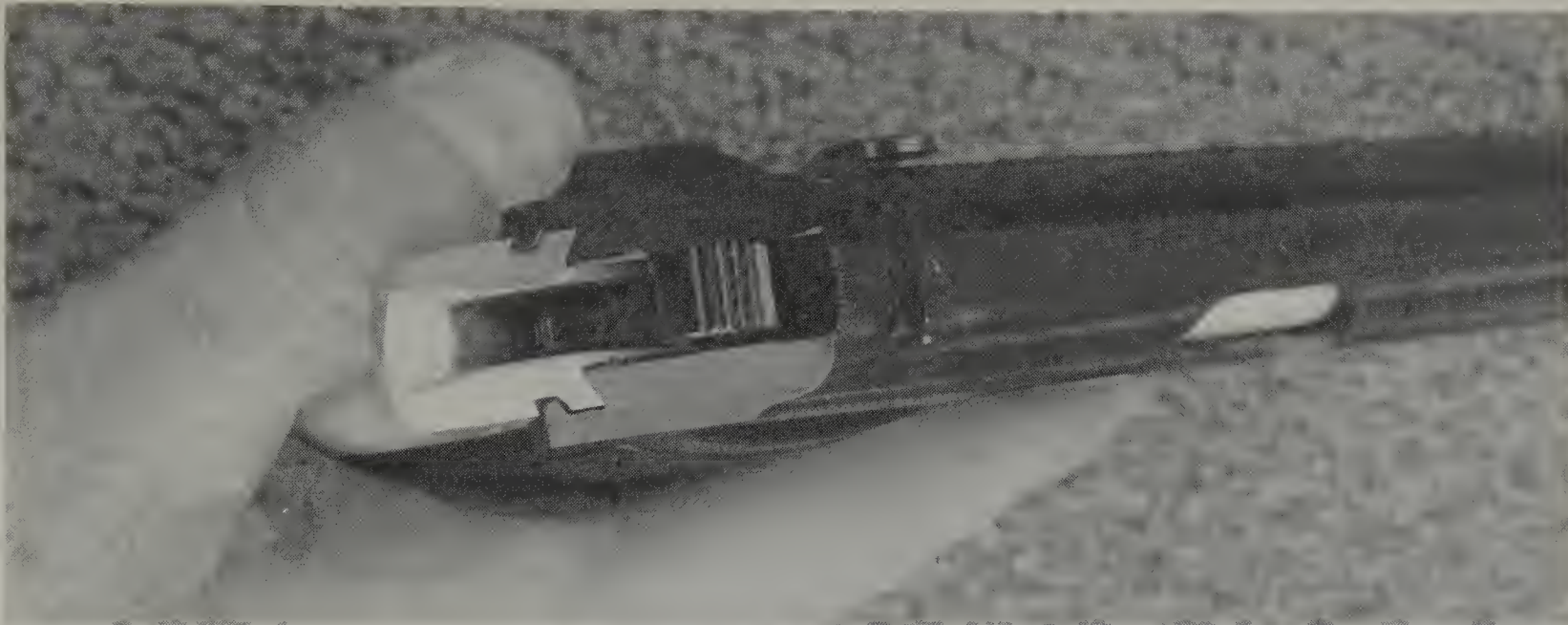
where it is legal to carry a pistol in the automobile. The alloy frame is a plus here, too, since the PA-63 would be less likely to rust. The PA-63 is large enough to be considered a holster gun or drawer gun rather than a pocket auto. The key words in evaluating the PA-63 are 'good value'.



Disassembly of the PA-63 follows that of the Walther PP/PPK line of blowback autos.



This 8-round group, the first round fired double-action, from 25 yards is indicative that the PA-63, despite its very heavy double-action trigger pull can be fired with good combat accuracy.



Although the PA-63's sights are not as good as current production Walther PPKs, they are certainly serviceable enough for normal combat ranges.



Even with the alloy frame and the 9mm Makarov cartridge the PA-63 is not a difficult pistol to control during rapid fire.



The PA-63's sleek lines are one of its real pluses, giving the pistol a stylish flare and aiding in instinctive pointing.

PSM

Type: double-action semi-automatic pistol.
Maker: Russian State Arms Factories.
Calibre: 5.45mm.
Overall length: 155mm, 6.1in.
Barrel length: 84mm, 3.3in.
Weight, empty: 454gm, 16oz.
Magazine capacity: 8+1.
Construction: alloy and steel, alloy panel grips, fixed sights.

The PSM was for many years a source of much speculation among Western intelligence agencies, and, even with the thaw in relations with Russia, as this book is written, the PSM is still relatively rarely encountered. Although some experts have suggested that the PSM was developed for KGB executive protection units, this would seem to be quite unlikely. The PSM is another of the Russian designs that owes a great deal to the Walther PP/PPK. In this case, however, two considerations seem to have been pre-eminent in the pistol's design. A 5.45mm bottlenecked cartridge was developed and the gun was built to fire it, and the pistol was designed for extreme thinness. The PSM is, in fact, only .7 inches at its thickest point.

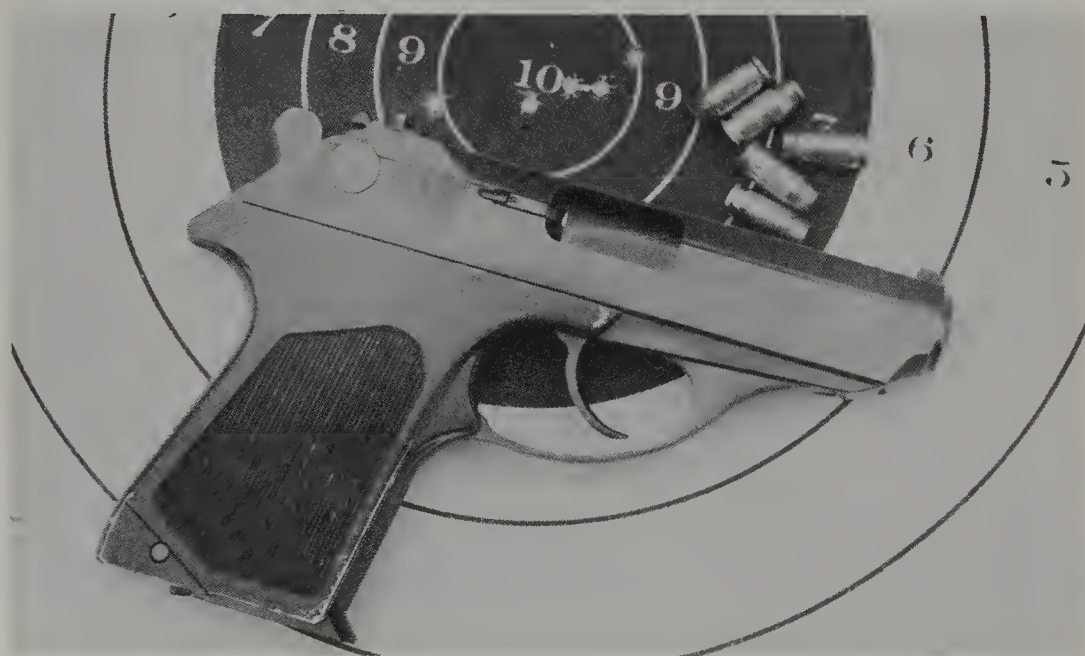
The logic behind this design would seem to be the creation of a pistol that would conceal quite well. The extensive use of alloys may even have been intended to make the pistol less likely to be detected by magnetometers. There has been speculation that the 5.45mm round, the bullet of which leaves the muzzle at about 1,035 feet per second, was designed to penetrate soft body armour. I had a chance to test this theory while evaluating the PSM, and I now agree. I tested the PSM on a swatch of Kevlar, 20 layers thick, sufficient normally to stop a .44 Magnum revolver at point-blank range. The PSM punched through the Kevlar as if it were hot butter, penetrating all 20 layers

and an additional 250 pages of a phone book backing the Kevlar. The combination of the PSM's ease of concealment and its ability to penetrate vests would seem to indicate that it was really intended for use as an assassination weapon, either for use by GRU Spetsnaz or by KGB 'Wet Work' specialists.

As has already been mentioned, the PSM's most noteworthy feature is its extreme slimness. The safety, mounted on the slide; the magazine release, mounted at the base of the grip; the lanyard ring, built into the grip; the alloy panel grips; the sights; all are designed to keep the pistol thin. Other dimensions have remained unchanged and are roughly equivalent to the Walther PPK, though the trigger guard, which is hinged for disassembly in Walther fashion, is a bit more streamlined on the PSM. PSM, it should be noted, stands for *Pistolet Samozaryadny Malogabaritny* (Pistol, Self-Loading, Small).

The PSM is quite pleasant to shoot either one-handed instinctively or two-handed in aimed fire. The sights are rather minimal and are sometimes hard to acquire, but the gun is very accurate, groups of 1½in at 50 feet being shot by myself and a companion. In one-handed draw-and-fire drills from concealment, the PSM performed well, too, on pepper poppers. Bottle-necked cartridges usually feed well, and the 5.45mm rounds used in the PSM were no exception, as it handled every round without a malfunction. I have to admit I was very impressed with the PSM's performance. One point I did note was that there was a tendency for my trigger finger to sting after firing 25 rounds or so, but I was shooting on a rather cold day which may have increased the effect. The other possibility is that the thinness of the trigger guard may have left an edge that was banging against the surface of my finger.

As it currently stands, I do not really see the PSM becoming widely available; it does not really fit most self-defence needs or other situations calling for a combat handgun. I do, however, see two situations where the PSM



The PSM shoots very well indeed as this 50-foot group illustrates.

would be very useful: for undercover drug agents or others who need a concealable handgun capable of stopping assailants likely to be wearing ballistic vests; and as a compact secondary arm for military personnel, who also may need a pistol with the ability to penetrate, yet do not want extra weight or bulk.

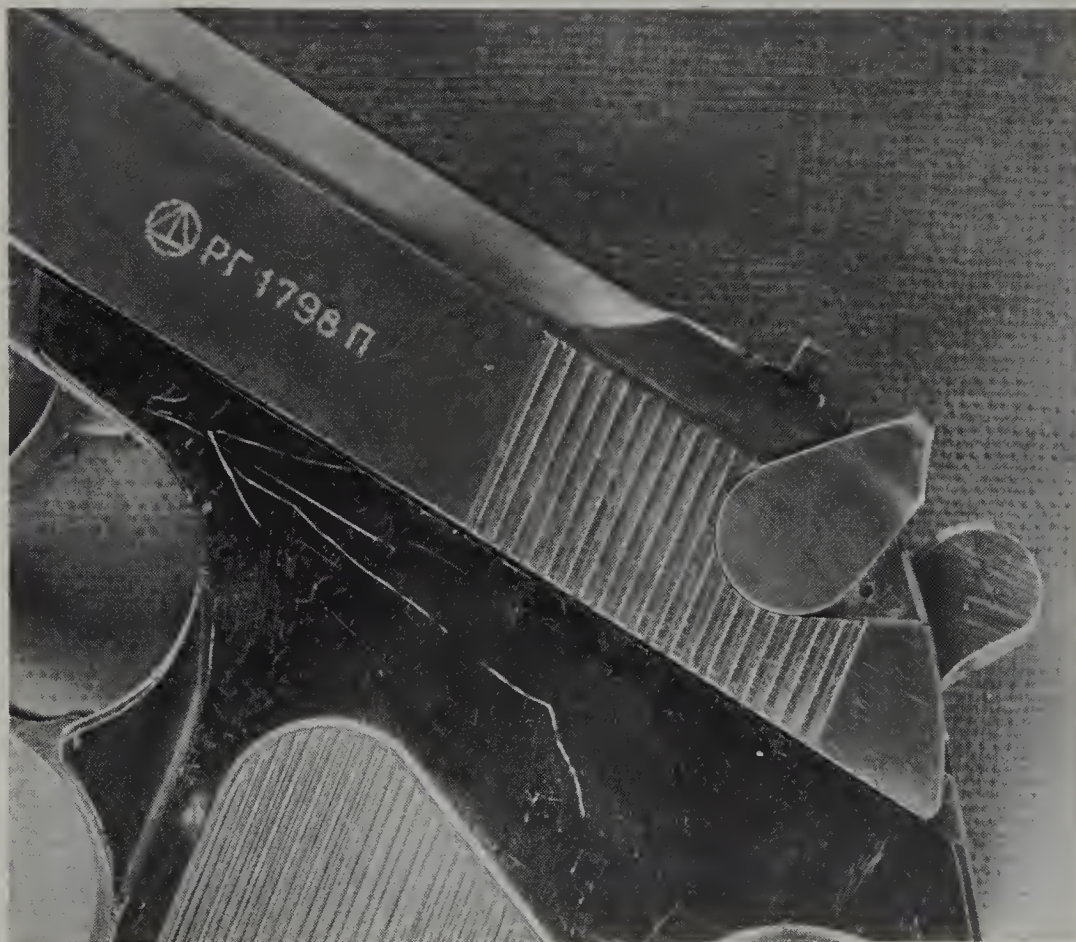
I believe the Russians continue to see the Makarov as their primary combat handgun, while the PSM was

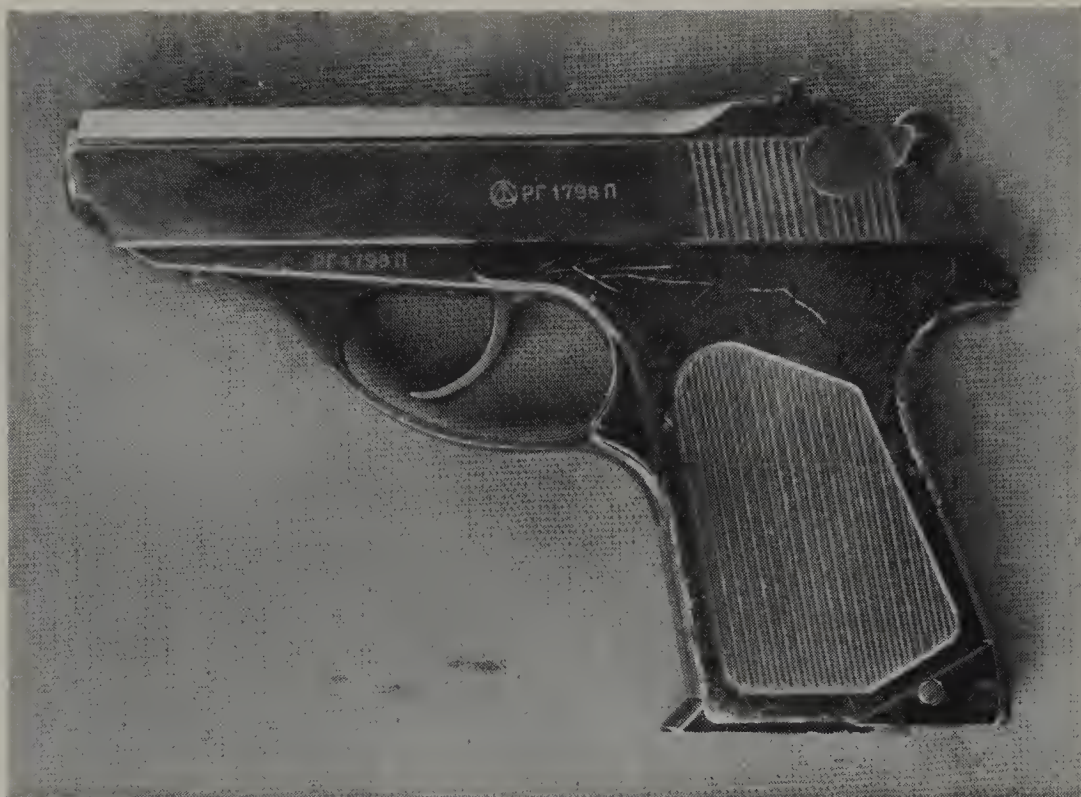
designed to fill a very special need. If the PSM were readily available in the USA at the bargain prices of many weapons coming in from the former Eastern Bloc, and if the ammunition were readily available, I'd probably add a PSM to my collection. For the very specialized task it was designed to perform I think the PSM is quite good. I just don't see a really large demand for a very flat, very penetrative pistol among general shooters.

Note the lack of protrusions on the PSM and the compact sights.

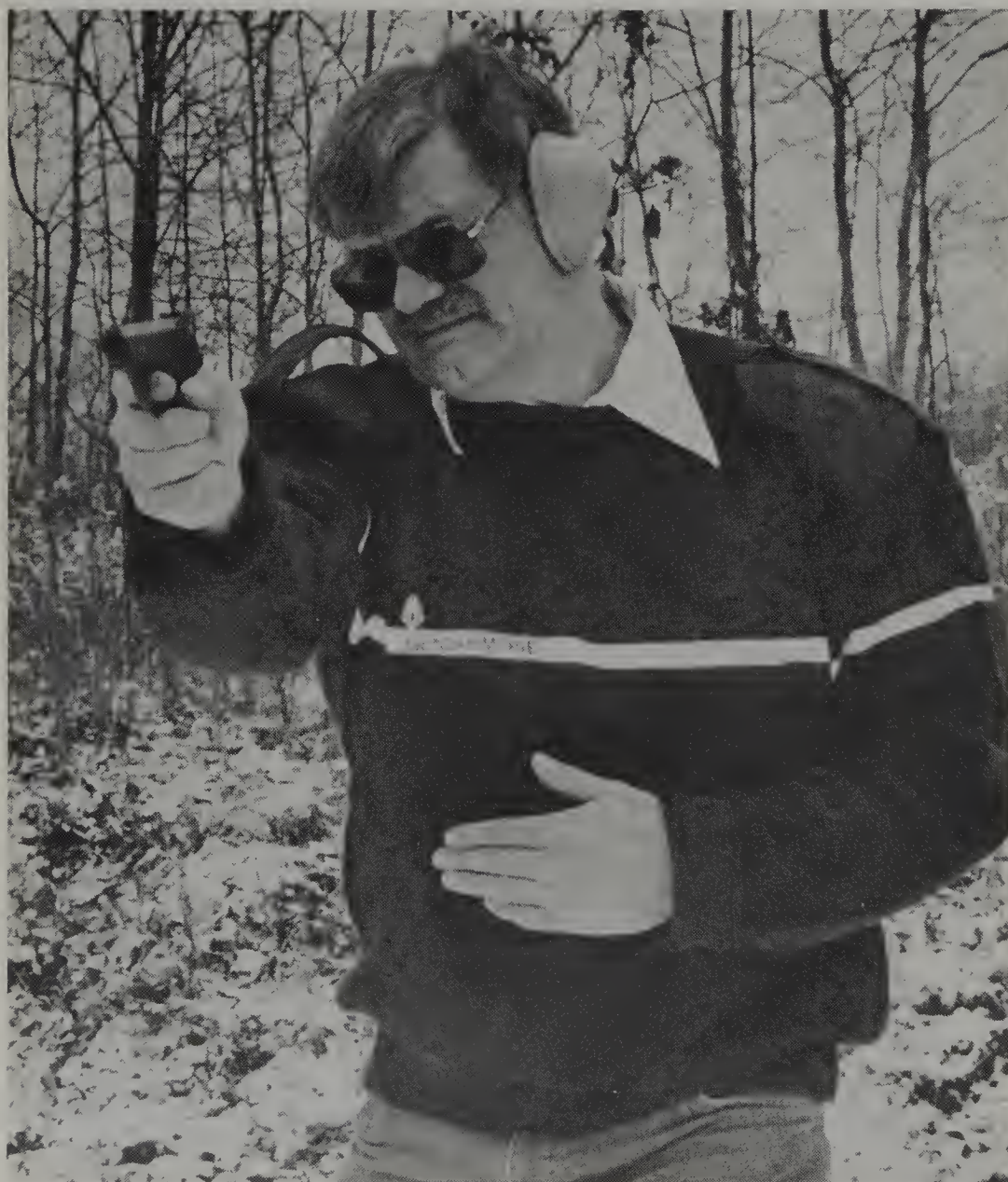


Close up of the PSM's safety, hammer and markings.





Left side view of the PSM's sleek profile.



The author practising a one-handed quick reaction string with the PSM.

Rossi Model 720

Type: double-action revolver.
Maker: Rossi S.A. Sao Leopoldi, Brazil.
Calibre: .44 Special.
Overall length: 197mm, 7.75in.
Barrel length: 76.2mm, 3in.
Weight, empty: 907gm, 32oz.
Cylinder capacity: 5.
Construction: stainless steel, front ramp, rear adjustable sights, neoprene finger-grooved grips.

Rossi revolvers have enjoyed growing popularity in the United States over the last few years, offering a well-made yet inexpensive alternative to Ruger, Colt, or Smith & Wesson in .38 Special or .357 Magnum. The sound reputation and distribution network of Interarms, the importer from Brazil, has also helped make Rossi a well-known name on the American firearms market. The newest Rossi, the Model 720 .44 Special, is, in my opinion, the best product they've offered to date. With the always popular Charter Arms Bulldog out of production currently, Rossi has the market for a compact .44 Special revolver almost to themselves, though their Brazilian competitor Taurus has also introduced a larger .44 Special Revolver. And, this is a real if limited market. Many prefer a combat revolver chambered for a larger, heavier bullet than that of the .38/.357 group of lower velocity. That perfectly describes the .44 Special. The popularity of the .40 S&W auto round has helped reinforce interest in larger, medium-velocity loads for combat as well.

In designing the M-720 Rossi's engineers went for sturdiness, too, as they incorporated an unfluted 5-shot cylinder, thus increasing strength substantially by offsetting the bolt cuts. Also enhancing strength and helping to dampen recoil is the heavy underbarrel lug. As a result, though, they ended up with a 2lb gun, certainly not the weight for a pocket revolver. The M-720, then, by nature of its size and weight becomes a compact holster gun. The incorporation of adjustable sights would also normally legislate against pocket carry since they are more likely to snag. Having conceded this a belt rather than a pocket gun, though, I have to admit I really like the M-720's sights. The white outline rear and blued front ramp with red insert, acquire very well. In fact, the day I was testing the M-720 it began to rain and was quite humid and even with raindrops combined with my glasses steaming up from humidity and an overcast sky, I still found the M-720's sights easy to acquire. As seems to be the trend with many revolvers, especially those firing the more powerful cartridges, the 720 uses neoprene grips with built in finger grooves. I dislike these grips profoundly for many reasons. First of all, whatever fingers they use as the pattern for the grooves they're not mine. Also during a crisis draw in a combat situation, I've had clothing stick to the checkering on

neoprene grips which increases the possibility of the gun getting tangled up when one needs it must. Having said that, I do like the Rossi version of these grips better than any others I've tried.

I've always thought the .44 Special and .45 Colt were excellent combat cartridges, offering good knock-down power with their heavy bullets yet lowering the possibility of overpenetration through their lower velocity. Another point which should not be missed is that bigbores are intimidating and for the civilian defending himself or herself or for the police officer, giving a felon a look at the M-720's big bore might be a problem solver right there. Another combat advantage of the M-720 is that the 3-inch barrel offers enough tube to stabilize the bullet yet is short enough so that in a struggle it will not be easy for an assailant to lever the gun out of the hand.

For testing the 720 I took along Winchester's 200-grain Silvertips and Federal 200-grain SWHP, both excellent combat loads for the .44 Special. Both performed about equally with the Federal load being slightly more accurate, but I emphasize the word 'slightly' as we're talking about 1/2-1in at 50 feet. Since I don't test guns from a rest, preferring to try them out the way they'll be used in combat, one can't deduce much from slight differences. I was very impressed with the 720's shooting performance.



Although compact, the Model 720 Rossi is not a pocket revolver in the class of the S&W 642 for concealment. It is still a holster gun.

Firing rapidly double-action from 50 feet, my best group was just over 4 inches and most ran around 5 inches. On a humanoid combat target, however, all would have been well-placed chest cavity hits. Due to the heavy underbarrel lug, recovery for repeat shots was very quick, a point I especially noted when engaging pepper-poppers at varying distances. The fact the M-720 has excellent sights was also a boon for both accuracy and rapid target engagement. I did

note that even with the 3in barrel the ejector rod did not have a long enough stroke to fully eject spent cases. As usual with snubs, rotating the barrel upward so that gravity helps with extraction is, thus, called for.

For the home owner, for the sportsman, even for the plain clothes police officer, I think the M-720 offers a high quality, relatively inexpensive bigbore combat revolver, one to which I give a very high recommendation.



The unfluted cylinder of the Taurus enhances appearance in the opinion of many shooters, and increases cylinder strength.



The Rossi's 5-shot cylinder positions the bolt cuts between chambers so that cylinder walls are not weakened. Note also the white outline rear sight.

Despite its heavy .44 Special chambering, the Rossi could be pulled on to target quickly for fast repeat shots.



Firing rapidly double-action at 50 feet, the author found that the M-720 handled efficiently and accurately.



The Taurus's heavy underbarrel lug helps hold the muzzle down during rapid multiple shots.



Ruger P-85

Type: double-action semi-automatic pistol.
Maker: Sturm, Ruger, Inc., Southport, CT, USA.
Calibre: 9×19mm, .45 acp (Model P-90).
Overall length: 199mm, 7.85in.
Barrel length: 114.3mm, 4.5in.
Weight, empty: 907gm, 32oz.
Magazine capacity: 15+10.
Construction: stainless steel with alloy frame or blued steel with alloy frame, both with fixed sights.

Probably the best single word to describe the Ruger P-85 is 'durable'. This is an extremely sturdy pistol in the tradition of products from Ruger. Designed with only 50 parts, many of which do double duty, the Ruger has fewer parts to break or malfunction. Along with durability comes a very competitive price which makes the P-85 an especially attractive pistol to those wanting a large capacity, double-action combat auto without a huge financial outlay. Although this combo has appealed especially to civilians wanting a defensive pistol, Ruger has also picked up some law enforcement orders from value-conscious agencies.

The P-85 uses a Browning-style locked breech system in which a pivoting link on the bottom of the slide pulls the barrel downward out of engagement with the slide after the two have travelled enough distance together to allow the bullet to leave the barrel. Unlike most pistols using this system, however, the P-85 does not employ the normal locking lugs atop the barrel. Instead, a squared-off section at the rear of the barrel rides in the ejection port of the slide until the barrel unlocks. The system has seemed to work quite effectively and reliably in the two P-85s I've used.

The ambidextrous hammer-drop safety safely drops the hammer while blocking the firing pin and disconnecting the

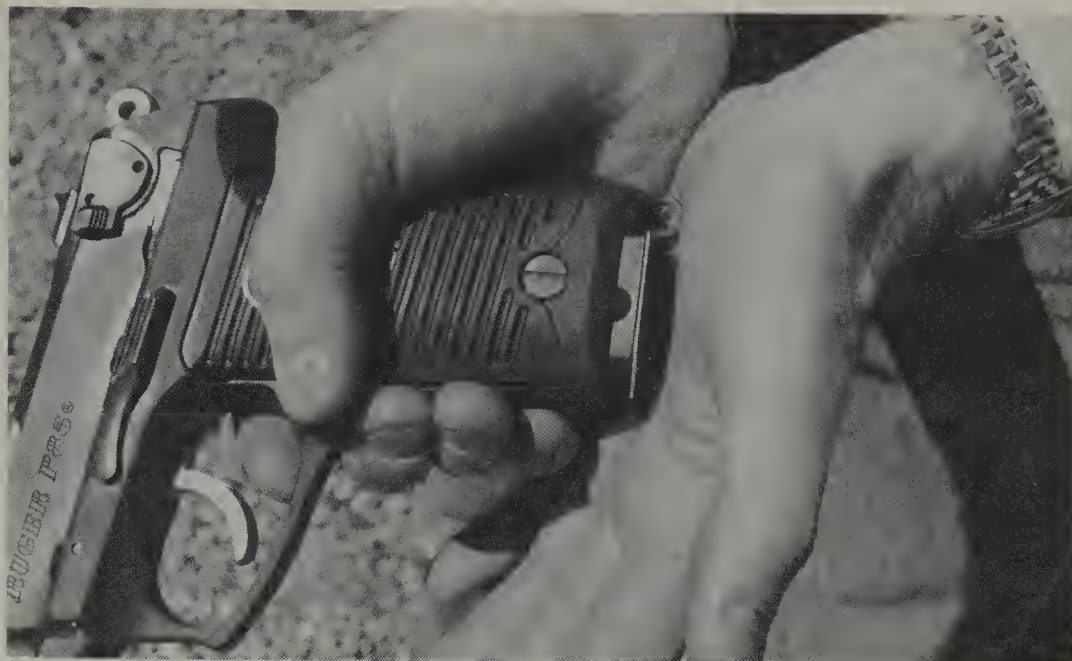
sear. Even with the safety in the fire position, the trigger has to be pulled all the way to the rear for the pistol to fire. The P-85 does not incorporate a magazine safety, and, though this type of safety has certain advantages in preventing accidental discharges, most combat shooters do not like the idea that the pistol will be out of commission during a mag change and prefer pistols without the magazine safety. Many police agencies, on the other hand, like the mag safety since it renders the pistol safe even if one forgets to eject the round in the chamber after removing the magazine. One other argument in favour of the magazine safety for police work is the fact that more than one police officer has saved his or her life during a struggle for the gun by hitting the magazine release and thus rendering the gun inoperable. As with the safety on the S&W and Beretta, the Ruger hammer drop can be applied while loading the pistol, thus making this procedure more safe.

Among the other handling features are an ambidextrous magazine release which uses a rectangular rather than circular release button. This is a useful feature for left-handed shooters and for those who like weak-hand capability with their combat pistol. The pistol comes with two magazines in a sturdy plastic case. A small bonus which I appreciate is that Ruger also supplies a magazine loading tool with the pistol, and when loading 15-round magazines this can help save wear and tear on the thumb. One potential problem I noticed when practising rapid magazine changes can occur due to the location of the lanyard ring at the base of the grip. I found on rapid changes that the heel of my hand often hit the lanyard ring, thus preventing the magazine from being thrust home into the magazine well. I like the idea of a lanyard ring for military and specialized police use as well as for civilian use on the water or mounted, but this location does present a problem. The slide release is located on the frame in fairly standard Colt/



One of the positive features of the P-85 is its ambidextrous safety, shown here being operated by the left hand.

One possible problem the author sees with the P-85 is that during a rapid combat reload, it is possible for the lanyard ring to prevent the magazine from being slammed fully home.



The P-85, disassembled for normal maintenance, shows some of its special features, including the captive hold-open device.



Browning fashion, but for me at least it's located a bit too far forward for easy manipulation without shifting the firing position of the hand. The sights are fixed, as I normally prefer on a combat arm, and incorporate two white dots on the rear sight, which is radiused to eliminate sharp edges, and a single dot on the front post. Overall I find the sights more than acceptable and can acquire them rather quickly.

The trigger guard is large enough to allow use with gloves, a plus for anyone carrying this weapon in cold climates. The trigger itself is wide and well curved. Trigger pull on the Rugers I've fired, however, leaves quite a bit to be desired. The double-action is very heavy (some reportedly require almost 20 pounds of pull) with a tendency to stack as it nears letoff, while the single-action is also heavy (7 to 10lb on most) with some creep. The wide trigger helps make the pull seem lighter, though. One can get used to the

pull, but it will take some range time and, for me, it does affect how accurately I can shoot the P-85.

The overall feel of the pistol is that it is boxy, though its XENOY grips are really fairly comfortable and the gun is about average as an instinctive pointer. As a friend of mine said: the P-85 would have been a great pistol had it been introduced before shooters had had a chance to use a SIG P-226, a Glock 17, or a CZ75. The designs of these pistols, however, are such that by comparison, the Ruger comes off as somewhat ungainly. Its lines are more those of a work horse than a race horse, but, once again, this emphasizes its durability.

When discussing the P-85's durability earlier, I didn't mention the fact that the slide stop, which is pushed out for disassembly as is normally the case with Colt/Browning style autos, is captive so that it cannot get lost. This is a real



During rapid fire even with +P+ ammo the P-85's weight allows it to be easily controlled.

50-foot rapid fire groups with the P-85 using Federal's 9BP 115 grain Jacketed Hollow Point.

plus during disassembly. On the other hand, the fact that the P-85 makes parts perform multiple duties creates one situation during disassembly which I do not like. Before the slide can be removed from the frame, one must reach through the ejection port and depress the extractor, creating the likelihood of injuring one's finger should the slide go forward by accident. I'll admit that I haven't had this happen, but I worry about it when taking the pistol down for cleaning.

In test firing both a blued and a stainless P-85, I found that I shot about average with both pistols. The P-85 didn't really shoot exceptionally well with any specific round, the Federal BP 115-grain JHP, Federal 124-grain Nyclad Hollow Point, and the Cor Bon 115-grain JHP being about the best. The combination of the heavy trigger pull and the grip that feels somewhat fat in my hand combined to diminish accuracy for me I'm sure. For fast repeat shots, both on a silhouette target and on pepper-poppers, I found the P-85 acceptable but not as fast as more instinctive pointing handguns such as the CZ-75, Browning Hi-Power, SIG P-226, or Glock 19/23. Functioning with the various types of factory ammo I tried was flawless, but I did find that some handloads I tried in my blued P-85 did not function, though these same loads function well in all of my other 9mm autoloaders. The point here is that the P-85 seems to be a little more reliant on ammo which stays near to factory specs, and this can be a disadvantage for a combat handgun which could conceivably malfunction even with factory ammo that is a little off spec. I also found that the P-85 occasionally is sensitive to being held at odd angles when firing, another consideration for a combat auto that might be used in all sorts of situations.

With large capacity pistols such as the Glock, CZ75, and SIG P-226 now available, the Ruger's somewhat boxy lines and heavy trigger certainly suffer by comparison. On the



other hand, the Ruger's low price and durable construction will continue to carve out a market for this American product. The P-85 is definitely better as a holster gun riding on a police officer's or civilian's hip for overt carry than as a concealed carry pistol where more compact models such as the Glock, S&W 6906, or H&K P7 excel. Ruger's speciality has always been handguns which offer good value for the money, and I think that's a good way to sum up the P-85.

I should note that I've handled the P-90, the .45 acp version of the P-85, but I have not fired it. This larger calibre Ruger auto is actually slightly more bulky than the P-85, but otherwise should share most of its good and bad points.

Ruger Redhawk

Type: double-action revolver.
Maker: Sturm, Ruger Inc., Southport, Connecticut, USA.
Calibre: .44 Magnum.
Overall length: 279mm, 11.0in.
Barrel length: 140mm, 5.5in.
Weight, empty: 1,415gm, 50oz.
Cylinder capacity: 6.
Construction: stainless steel, adjustable sights.

Anyone even casually examining the Redhawk will realize that it was intended not as a combat handgun, but as an outdoorsman's gun. It is being evaluated here, however, because (for example) rural police officers and game wardens often carry .44 Magnum weapons for defence against predators — whether two or four-legged. These big holster guns may not be intended for use against human targets, but such use is possible.

The Redhawk is a massive weapon which is obviously capable of handling the .44 Magnum round. The frame and cylinder are even more sturdy than those on the Smith & Wesson Models 29 and 629, which is normally viewed as the ultimate magnum.

The Redhawk's cylinder is especially noteworthy because of the substantial wall thickness and the fact that the bolt cuts are slightly offset. Both provide a considerable safety margin. The Redhawk's ejector rod does not help to lock the cylinder, as on Smith & Wesson guns; instead, the front cylinder lock is found on the crane. One thing I do not like much about this revolver is the lack of counter-bored chambers, though I realize that modern case heads rarely separate. The cylinder-release latch lies on the frame, in much the same position as the rival Colt and S&W types. The Ruger latch, however, is simply depressed to release the cylinder — unlike the pull/push versions associated with most competing revolvers. Although Ruger quality is generally very good, the cylinder needed to be closed very firmly on the test gun to ensure that the latch locked effectively. Since an engagement failure can disable the gun at a critical time, this possibility should be borne in mind.

Although the barrel of the Redhawk does not appear all that heavy, this is an illusion caused by the massive frame. The back sight is click-adjustable and has a white-outline blade. A particularly advantageous feature of the front sight is that the blade containing the coloured insert, retained by

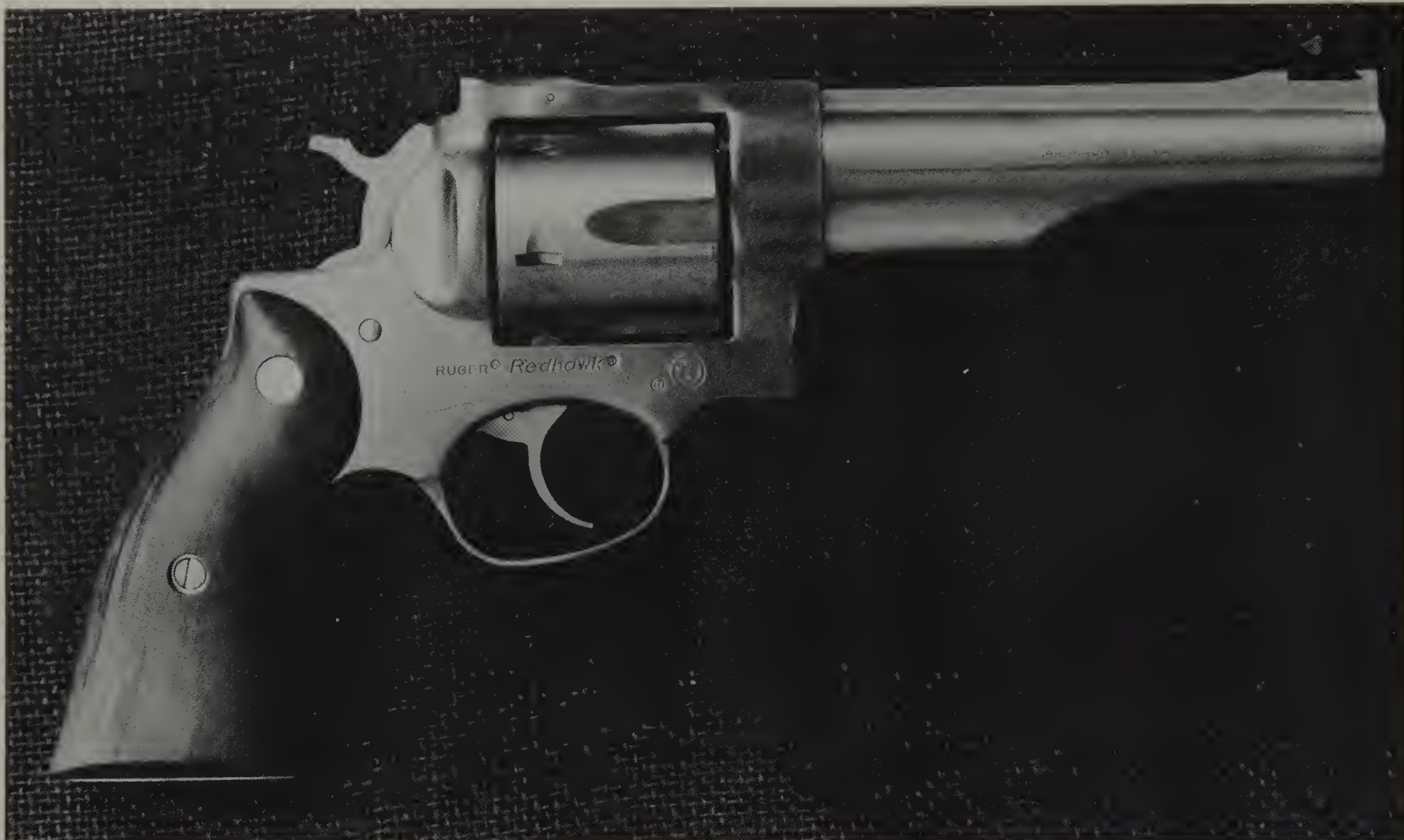
a plunger in its base, can be exchanged in a matter of seconds for one more appropriate to the conditions.

One innovation with the Redhawk is the use of only a single major spring to power the hammer and trigger. This is a real aid in achieving a good double-action trigger pull, particularly as the trigger has only to depress a single spring. However, this spring should only be altered by a competent gunsmith, as clipping a coil in an attempt to lighten the trigger pull can ruin the timing of the action. The Redhawk's smooth walnut service-type grip is large, but I find it (and the service stocks) quite comfortable. The only disadvantage I noticed is that, with my two-hand grip, the sharp edge of the butt sometimes cuts into my weak hand. Still, the Redhawk grip seems to be ideal for anyone with medium or large hands.

Being made of stainless steel, the Redhawk is well suited to its role as an outdoorsman's heavy holster gun. On the range, the test gun performed quite well, double-action group diameters at 25 yards running between 2 and 4in. 180gn Federal, 200gn CCI-Speer and 240gn Federal jacketed hollow-point rounds were used on the range, the 200gn CCI-Speer load performing the best. Despite the Redhawk's bulk and weight, recoil was very noticeable and recovery time was slow. Against a single adversary, however, a second fast shot will not normally be needed if the first round is well placed. There is also a theory that the noise and muzzle blast of a .44 Magnum at close range has a disorientating effect on an assailant. However, without ear protection, it also has a similar effect on the shooter!

The best method of disconcerting an opponent in a gunfight is with a well-placed heavy bullet, something the Redhawk is well capable of delivering. I would not count on the Magnum's reputation, though: a .22 that hits the mark is more effective than a .44 that misses. Too many of those who choose a .44 Magnum for combat do so because of its 'macho reputation'. Anyone considering the Redhawk as a combat gun should be a very experienced shooter who is sufficiently practised enough with the gun to have overcome flinch. Powerful hands and forearms also facilitate control.

Although the Redhawk is useful as a combat arm in the specialized situations discussed earlier, I nevertheless prefer the 4in-barrelled Smith & Wesson Model 29 or 629 (q.v.) for such use. The Redhawk is primarily a handgun hunter's arm which doubles for self defence in an emergency. If it is the only gun someone owns, for example, it is a better defence than no handgun at all. After all, at least the Redhawk is powerful enough for the task.

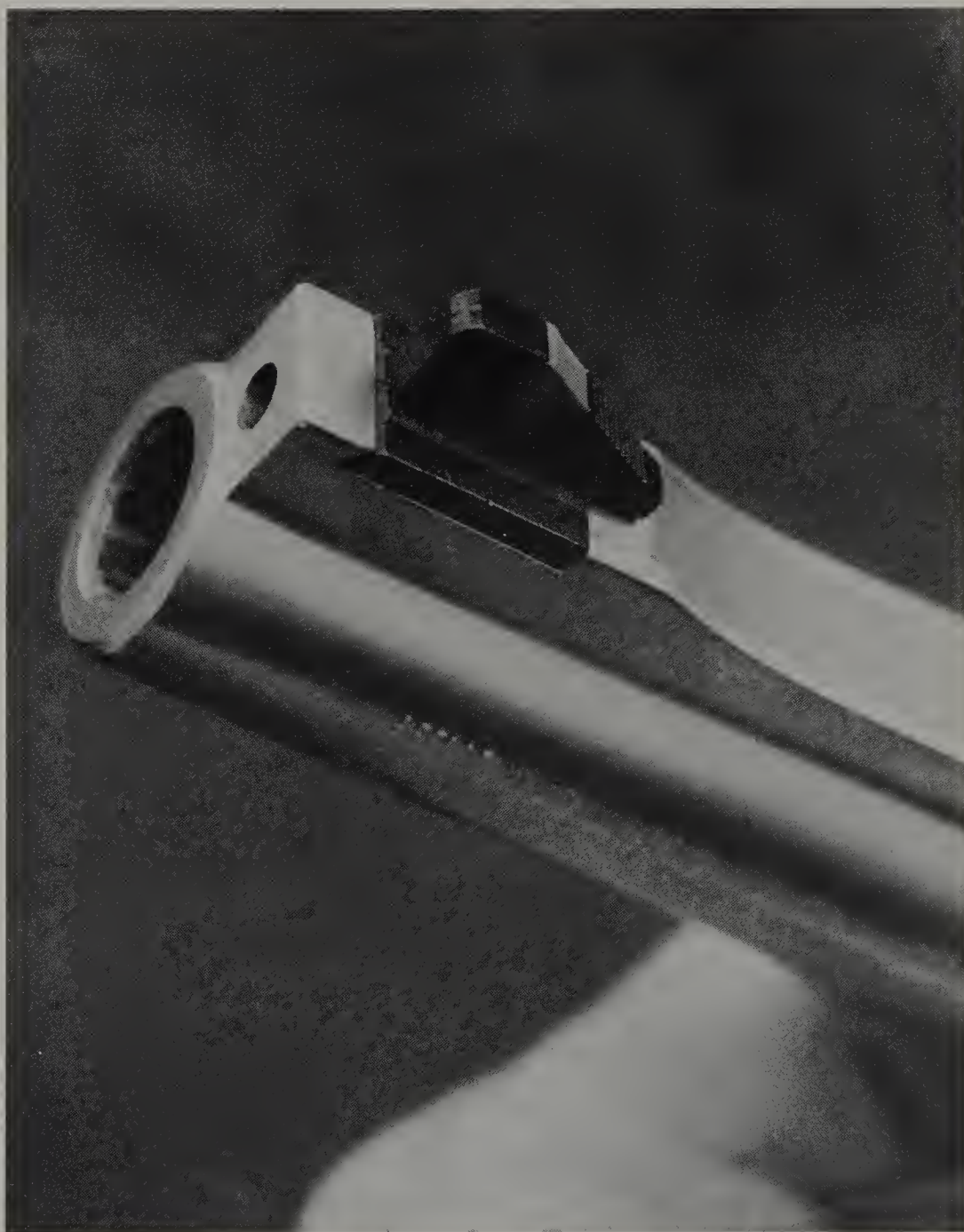
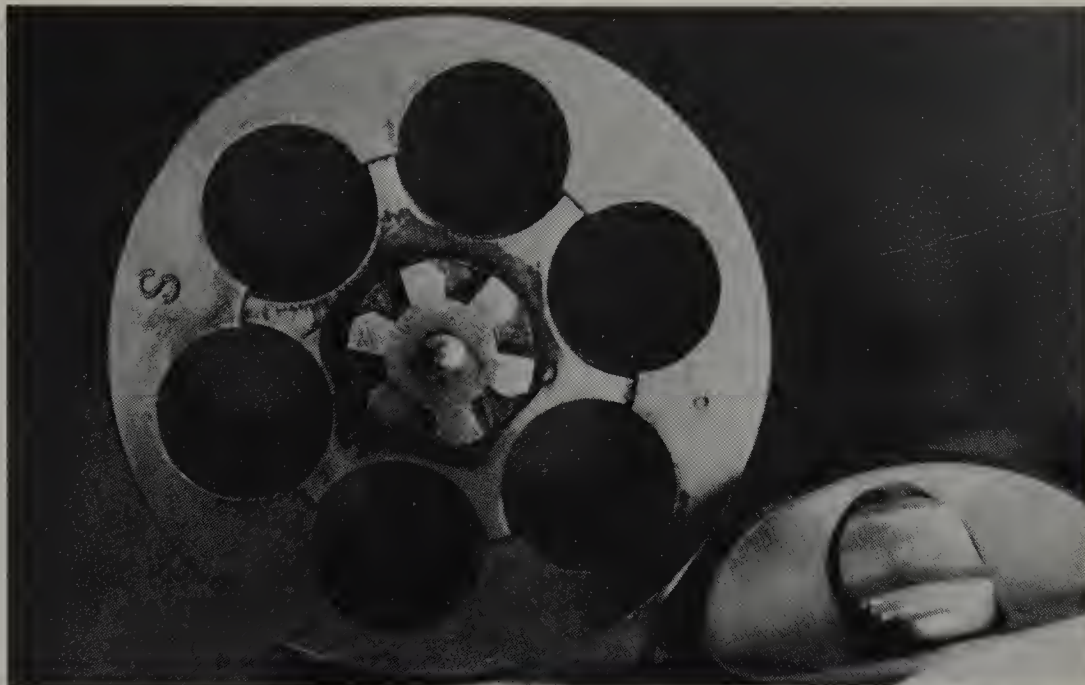


The Redhawk is one of the sturdiest double-action .44 Magnum revolvers on the market — and certainly looks the part. This 5in-barrelled version, the smallest option, is still massive. Note the smooth wood grips.

The Ruger ejector rod, unlike Smith & Wesson revolvers, plays no part in locking the cylinder.



The massive Redhawk cylinder has sufficient wall thickness to give a good safety margin even with full-power .44 Magnum loads.



Interchangeable front-sight blades enhance the Redhawk's versatility.



Though the Redhawk is a heavy, massive weapon, it still recoils appreciably with full-power ammunition.



The acceptable accuracy of the Ruger Redhawk, even with full-power .44 Magnum loads, is shown by this double-action group obtained at 25 yards.

Ruger SP-101

Type: double-action revolver.
Maker: Sturm, Ruger, Inc., Southport, CT, USA.
Calibre: .38 special.
Overall length: 180.34mm, 7.1in.
Barrel length: 57.15mm, 2.25in.
Weight, empty: 709gm, 25oz.
Cylinder capacity: 5.
Construction: stainless steel, fixed sights (rear notch, front blued ramp).

Ruger has always excelled in well-made, reliable, reasonably priced service pistols, and the SP-101 is no exception. This is a very sturdy revolver with an enclosed ejector rod, heavy barrel, and rear sight milled into the top of the frame. In typical Ruger fashion, the ejector rod is a stainless steel rod without an extraneous knurled tip. The cylinder release latch operates by pushing it in rather than pushing or pulling as one does with a Colt or Smith & Wesson. Opening the cylinder reveals only five chambers, which allows this pistol to handle stiff +P .38 Special loads. On the other hand, this is a big pistol for only five rounds of .38 Special. One could carry a .40 Calibre Glock or a Model 66 .357 Magnum about as easily. Some people either don't want or legally cannot carry more than a .38 Special, however. 'Carry' is the key word here, however. If I were going to carry a 5-shot .38 Special I would choose one of S&W's J-frame revolvers, which is much more concealable and can be carried in a pocket, while the SP-101 would definitely be a holster gun. On the other hand, the SP-101 would make an excellent home-defence revolver for the non-shooter who just wants a reliable self-defence gun. I think this is the best market for this gun.

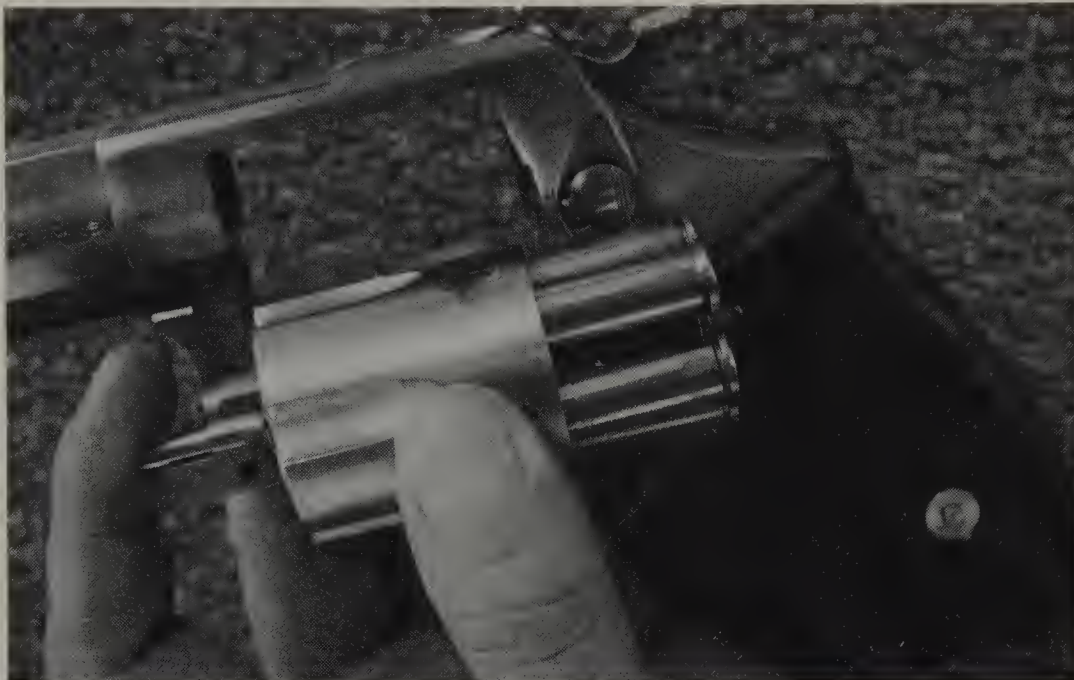
The SP-101 uses a typical Ruger push-in cylinder release latch.



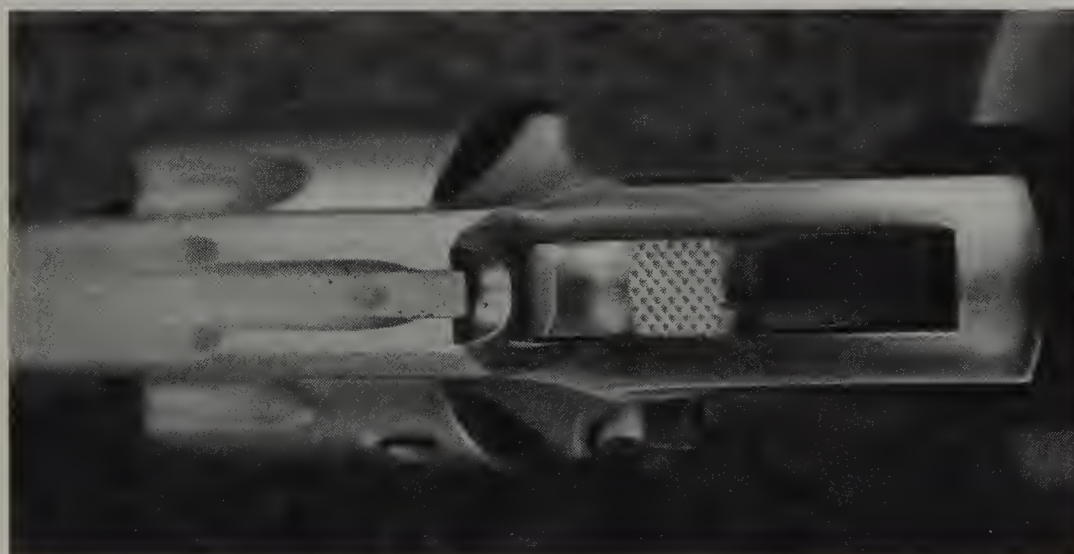
Enhancing its appeal as a home-defence weapon is the SP-101's transfer bar safety mechanism which renders the revolver safe until the trigger is pulled all the way through. Other advantages of the SP-101 as a home-defence weapon are its short barrel, which makes it harder for an intruder to wrench from one's hand, its durable stainless finish, and its comfortable grip. The black rubber wraparound grips on the SP-101 will allow it to be shot comfortably, but also allow it to be gripped properly even when grabbed quickly in the dead of night when one's motor skills are not at their best. Of course, for home-defence, the smaller cylinder isn't that important and most would prefer the additional round available with most medium-frame revolvers.

Trigger pull on the SP-101 isn't bad, though it's a bit stiff to get started in the double-action mode but then smooths as it nears letoff. Even with +P loads, the SP-101 is easy to shoot, the heavy barrel helping to dampen muzzle flip and the 25 ounces of weight absorbing some recoil. The smooth trigger is a plus as well since there is nothing to abrade one's hands during recoil. The well-designed rubber grips are especially appealing since they cushion the shock of heavier loads. As with most 5-shot revolvers, the bolt cuts fall over the thickest part of the cylinder and, hence, do not weaken it at the thinnest point directly over a chamber.

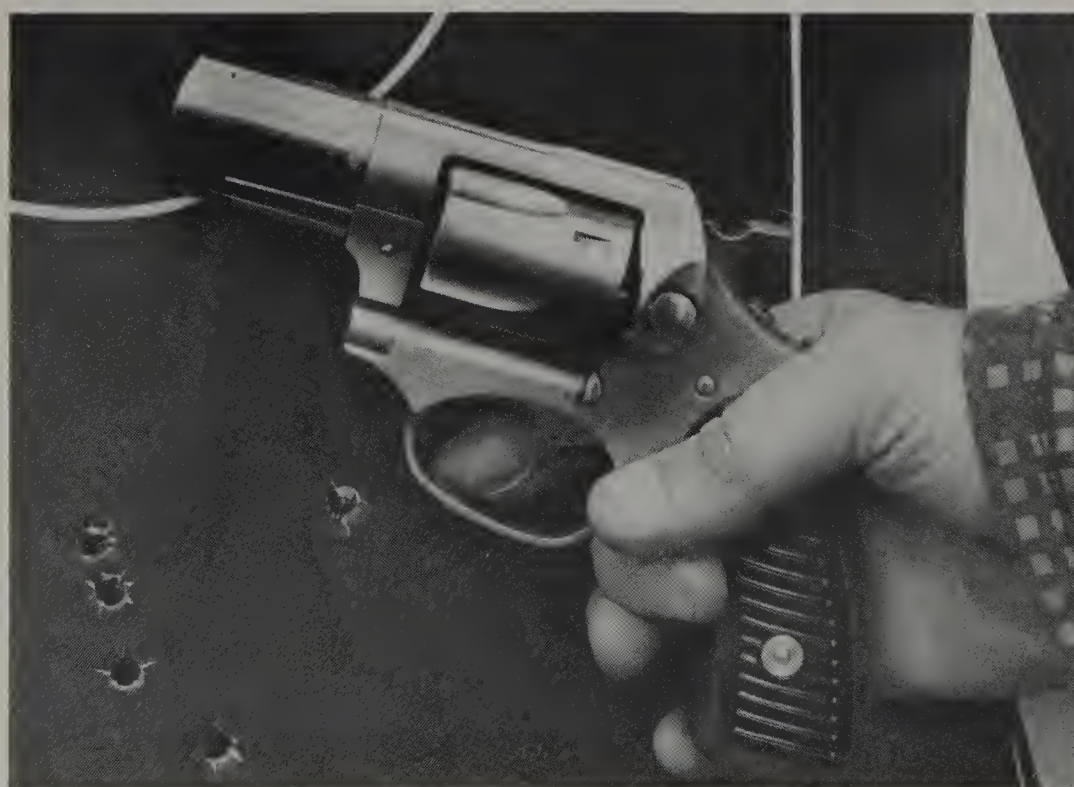
In shooting the SP-101, I found the sights easy to acquire and the trigger pull acceptable once one got the rhythm of the hard initial pull turning lighter as it approached letoff. I shoot the SP-101 very well, scoring 2-3-inch double-action groups at 50 feet normally. I also find the pistol handles quickly when shooting multiple targets such as pepperpoppers or gongs at varying distances. Among the loads that perform well in my SP-101 are Federal's 129-grain Hydra-Shok, CCI's 125-grain JHP, Cor-Bon's 115-grain +P+ JHP, and Remington's 125-grain Semi-Jacketed HP.



The SP-101's ejector rod is not quite long enough for full extraction.



SP-101's top sights consist of this notch milled into the topstrap.



The SP-101's weight helps make it a very accurate small revolver as this 50-foot group illustrates.

Sig P 210

Type: single-action semi-automatic pistol.

Maker: Schweizerische Industrie-Gesellschaft (SIG), Neuhausen, Switzerland.

Calibre: 7.65 or 9mm Parabellum.

Overall length: 215mm, 8.46in.

Barrel length: 120mm, 4.72in.

Weight, empty: 985gm, 34.8oz.

Magazine capacity: 8+1.

Construction: see notes.

There are several differing variants of the P 210. The **P 210-2**, the official service pistol of the Swiss army until replaced by the P 220 in 1975, has fixed sights. The **P 210-5** is a target-shooting derivative with a fully adjustable back sight and a 150mm (5.9in) barrel supporting the adjustable front sight. The **P 210-6** is similar to the P 210-2, but has an adjustable back sight, and there have been a number of luxury versions such as the superb 'Jubiläumsmodell' celebrating the 125th anniversary of SIG in 1978. A factory-made .22in LR rimfire conversion is also obtainable.

Prior to 1949, the Swiss army was equipped with a collection of Parabellums and indigenous revolvers. During the early 1940s, however, trials were undertaken with the SIG-made pistols featuring 'packaged' lockwork developed by the French engineer Charles Petter. By 1944, SIG had made two series of prototypes — SP 44/8 and SP 44/16, with 8 and 16-round magazines respectively — and, after successfully negotiating comparative trials against the Pistole W+F Browning and Pistole W+F 47, the remarkable SIG-Petter was adopted as the Ordonnanzpistole 49 SIG. Shortly afterwards, the P 210, identical in all but name, appeared on the commercial market.

Very little of the P 210 was genuinely innovative, though many of the better elements of other designs were cleverly combined in one gun. Short recoil operation was preferred, with an enclosed cam-path used to drop the rear of the barrel in proven Browning fashion. The SIG recoil spring has a full-length guide rod to improve its smoothness, characteristic of the detailed attention paid to the evaluation of each part.

The full length of the slide is supported by guide-rails set inside the frame, offering longer than normal support. Together with the unusually long barrel and superb manufacturing quality, the immediate result is outstanding accuracy. Another advantage of this slide/frame construction is that the barrel lies appreciably lower in the hand to

reduce the turning movement of the gun. The low profile necessitates raised retraction grooves at the rear of the slide.

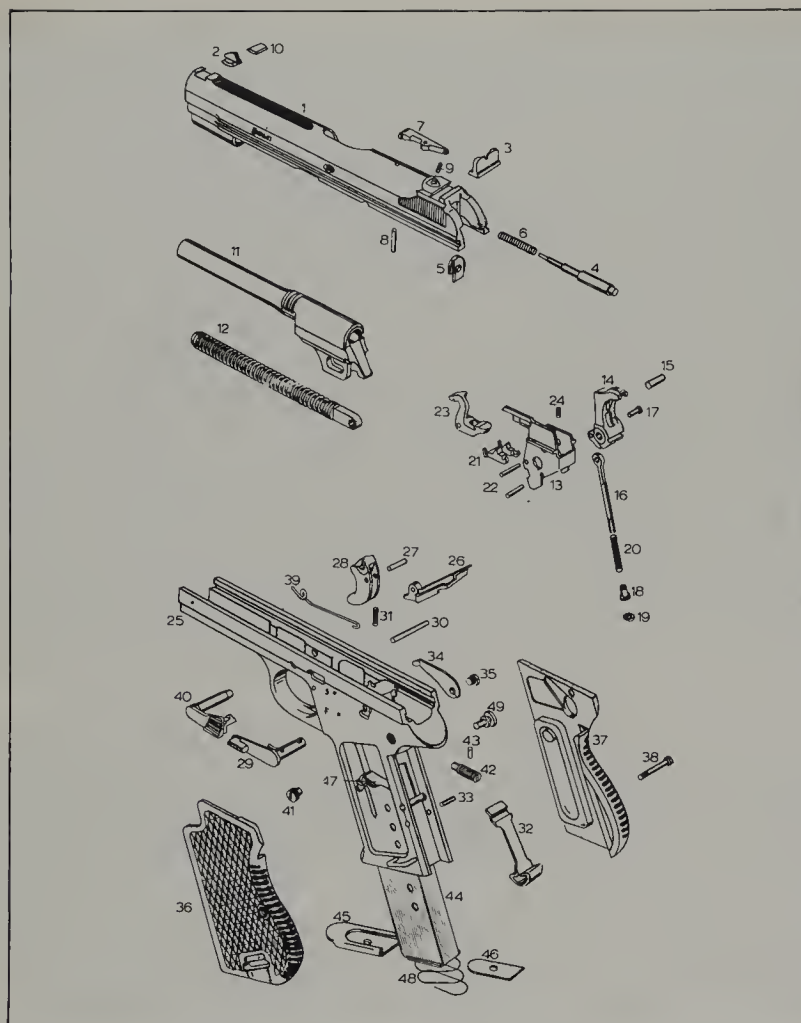
Another interesting feature, borrowed from other guns but suitably modified for SIG's purposes, is the pleasantly chequered wraparound plastic grip, which combines excellent balance with ideal pointing qualities. The shaping of the upper front part of the grip facilitates manipulation of the safety lever (which, however, is not so easily replaced in its upper or 'safe' position).

The trigger acts on the sear through the classic Colt-Browning stirrup bar, which also acts as a mechanical safety. The system has an incredible smoothness, even 'straight from the box', as every detail has been carefully studied; for example, the relevant spring is placed directly under the trigger, rather than 'wrapped' as on so many other designs, and the slack is only about 3mm before the extremely sharp let-off point. The other excellent feature of the SIG trigger is its very compact removable 'packaged' mechanism, held in the frame behind the magazine by a single screw. This compact design allows a very long sear bar, actuated by the left upper portion of the stirrup and thereafter passing beneath the base of the hammer. The crispness of the trigger pull is partly due to the fact that the safety simply blocks the stirrup.

Any shooter using the P 210 cannot fail to be impressed by the quality of the trigger pull, by far the best found on an ex-factory pistol and far better than even some expensively customized guns. The SIG is simply typical of a country justly famed for its precision engineering. Once accustomed to muzzle-heavy balance, owing to the length of the barrel and slide, an owner is rarely anything other than delighted by the smoothness and accuracy of this extraordinary gun.

Accepting the disadvantages of the small calibre, the Swiss national team in IPSC competitions achieved outstanding performances with the P 210 for many years, before substituting .45 ACP Colts customized by the German gunsmith Walter Ludwig. The greatest handicaps of the P 210, particularly considered as a combat pistol, are its small magazine capacity and the positioning of the magazine catch on the heel of the butt. It seems a pity that the experimental sixteen-shot SP 44/16 was not developed instead.

In addition, despite its legendary reliability, the P 210 was never cheap. Thus, it has been replaced by the SIG P 220 series.



Key

- | | |
|---------------------------------------|-------------------------------------|
| 1 Slide | 26 Trigger rod |
| 2 Front sight | 27 Pin for trigger rod |
| 3 Rear-Sight | 28 Trigger |
| 4 Firing pin | 29 Safety lever |
| 5 Firing pin plate | 30 Trigger pin |
| 6 Firing pin spring | 31 Trigger spring |
| 7 Extractor | 32 Magazine holder |
| 8 Bolt for extractor | 33 Pin for magazine holder |
| 9 Spring for extractor | 34 Magazine safety |
| 10 Cover for front sight groove | 35 Screw for magazine safety device |
| 11 Barrel | 36 Grip plate left |
| 12 Recoil spring | 37 Grip plate right |
| 13 Action casing | 38 Screw for grip-plates |
| 14 Hammer | 39 Spring for slide stop |
| 15 Hammer pin | 40 Slide stop |
| 16 Stirrup | 41 Stop screw for action casing |
| 17 Pin to stirrup | 42 Pin (trigger pull) |
| 18 Head of stirrup | 43 Safety pin (trigger pull) |
| 19 Lock-nut | 44 Magazine box |
| 20 Hammer spring | 45 Base plate |
| 21 Double-pull lever | 46 Base plate inset |
| 22 Pin for double-pull lever and sear | 47 Feeder |
| 23 Sear | 48 Magazine spring |
| 24 Sear spring | 49 Feeder button |
| 25 Frame | |

This standard P 210-6 displays its adjustable back sight. The safety is easy to place on 'fire', as here, but appreciably more difficult to return to 'safe'.





The uncluttered right side of the P 210-6.

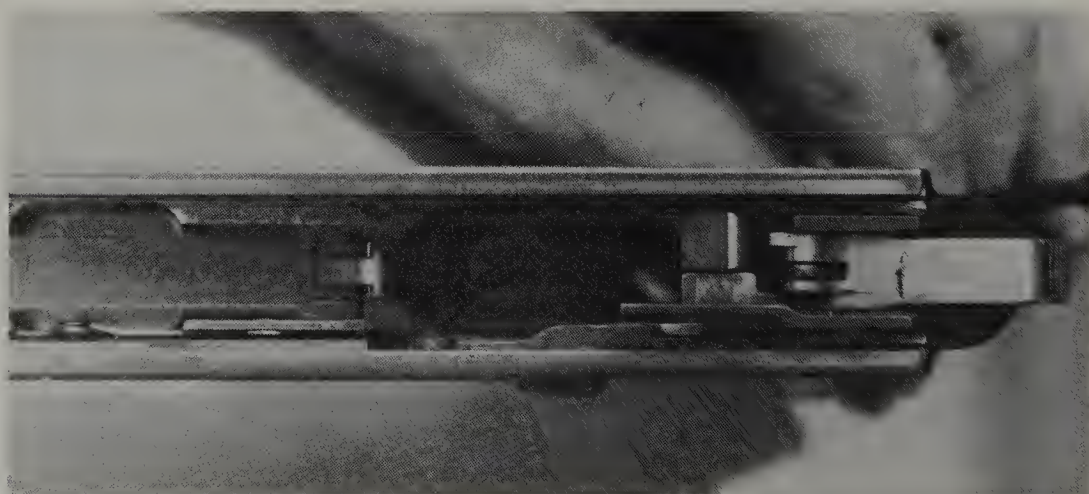
The P 210 magazine catch is poorly placed on the butt-heel; two hands are needed to release it, and the magazine is a very tight fit indeed.



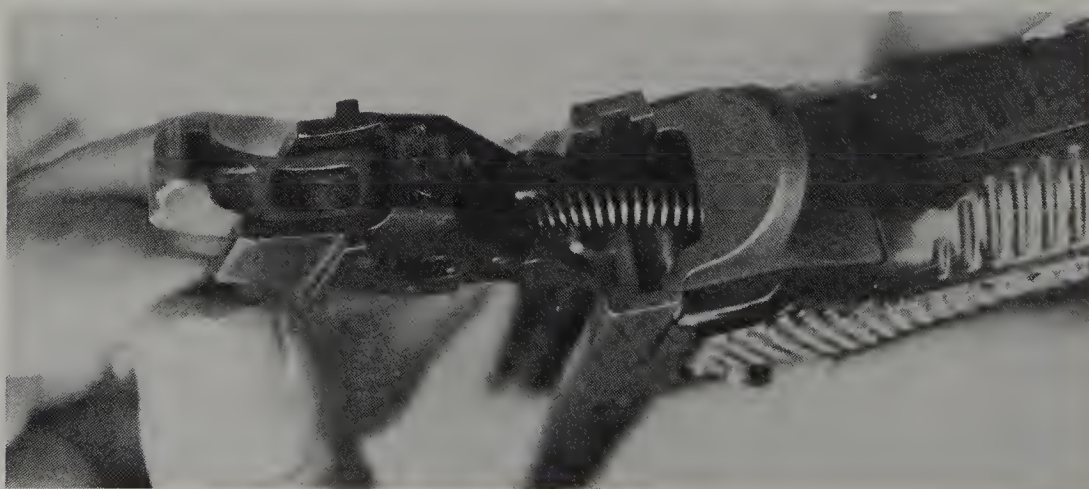
The SP 210 field-stripped, showing the closed cam-path in the barrel depressor block and the full-length spring guide.

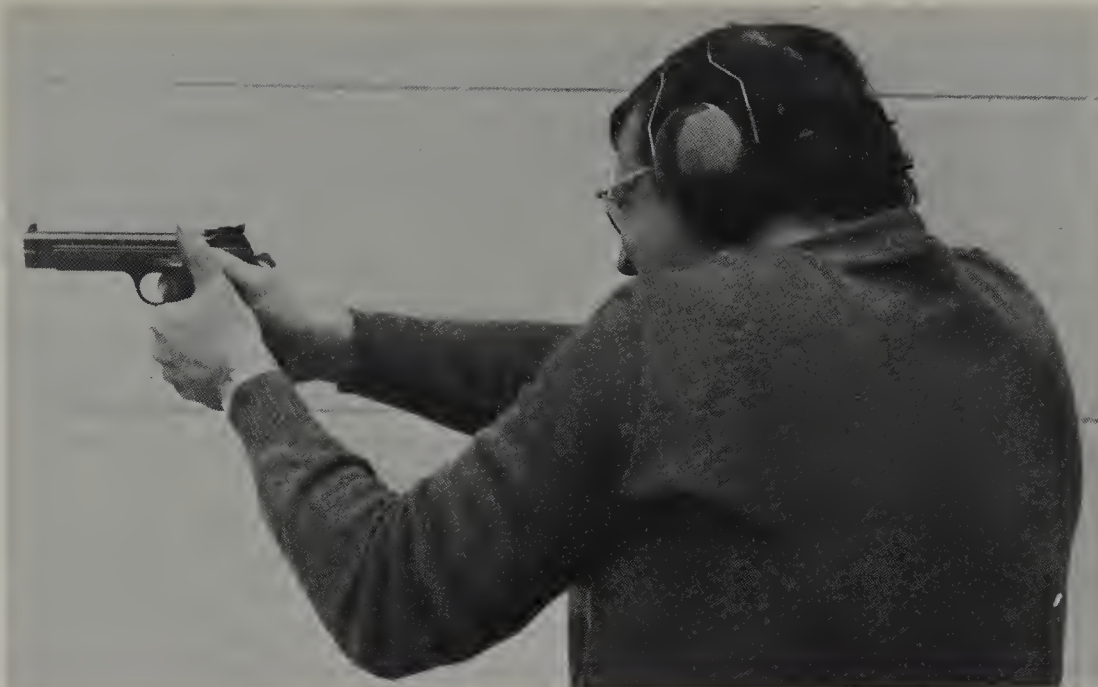


A view of the SP 210 frame with the slide removed. Note the tip of the stirrup-like trigger bar, part of which acts as the disconnecter.



After a single screw has been removed, the complete trigger mechanism can be removed.





(Above) The SIG trigger system is very compact. Note the contact between the sear and the hammer, visible through the circular hole in the supporting bracket. The parts are in very close proximity, with the upper arm of the sear (top left, just below the ejector) needing only the smallest movement to release the hammer.



(Above left) The SIG P 210 is the best of the current low-magazine capacity combat handguns.

Two magazines – sixteen rounds, plus the chambered cartridge – to the head from 15 metres. No comment is necessary!

Sig P 226

Type: double-action semi-automatic pistol.

Maker: Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfalls, Switzerland

Calibre: 9mm Parabellum

Overall length: 195mm, 7.68in.

Barrel length: 110mm, 4.33in.

Weight, empty: 850gm, 30.0oz.

Magazine capacity: 15+1.

Construction: combination steel/alloy, fixed sights.

NB: owing to the quirks of Swiss firearms export laws, SIG market these pistols in partnership with J.P. Sauer & Son GmbH of Eckenforde, West Germany. They are, therefore, advertized as 'SIG-Sauers', though wholly SIG's design.

The P 226 is the latest in a series of SIG-made pistols, the first of which — the P 220 — was perfected in the early 1970s and subsequently adopted by the Swiss army as the 'Model 75'. The P 220 was replaced by the P 225 in time for the German police trials of 1975, the P 225 being appreciably more compact. The inefficient butt-heel magazine-catch of the P 220 was moved to the frame-side behind the trigger guard on the P 225.

The P 225 was accepted by the German authorities as the 'Pistole 6' (P6) and issued, together with the Walther P5 and the Heckler & Koch P7, to units of the state police. The P 226 appeared in 1983 to satisfy the US JSSAP requirements, which included a reversible magazine catch and a large-capacity magazine.

The guns all embody an interesting variation of the locking system embodied in the FN-Browning High-Power, though the perfected SIG version owes something to light machine-gun practice. Instead of the conventional locking lugs engaging recesses in the top inner surface of the slide, the SIGs feature a massive squared barrel-block that rises into the ejection port in the slide. Unlike most other pistols featuring Colt-Browning locking systems, the engagement of the SIG block is visible externally.

The P 226 is a conventional-looking gun, with a profusion of levers and catches on the frame-side. The reversible magazine release lies immediately behind the trigger guard; the dismantling catch, which may be obtained for right- or left-handed firers, appears above the trigger; the slide stop protrudes above the grip; and a de-cocking lever will be found ahead of the left grip in front of the slide stop. The de-cocking lever breaks contact between the sear and a cocked hammer to drop the latter into the intercepting or 'safety' notch. This notch provides the rest position of the hammer; should it fail, however, the firing pin is locked by an angular vertical firing-pin lock until the final stages of the trigger travel. This allows the P 226 to be carried safely with a loaded chamber.

The pistol has an anodised alloy frame and slide, with an excellent matt finish, though the barrel, locking system and

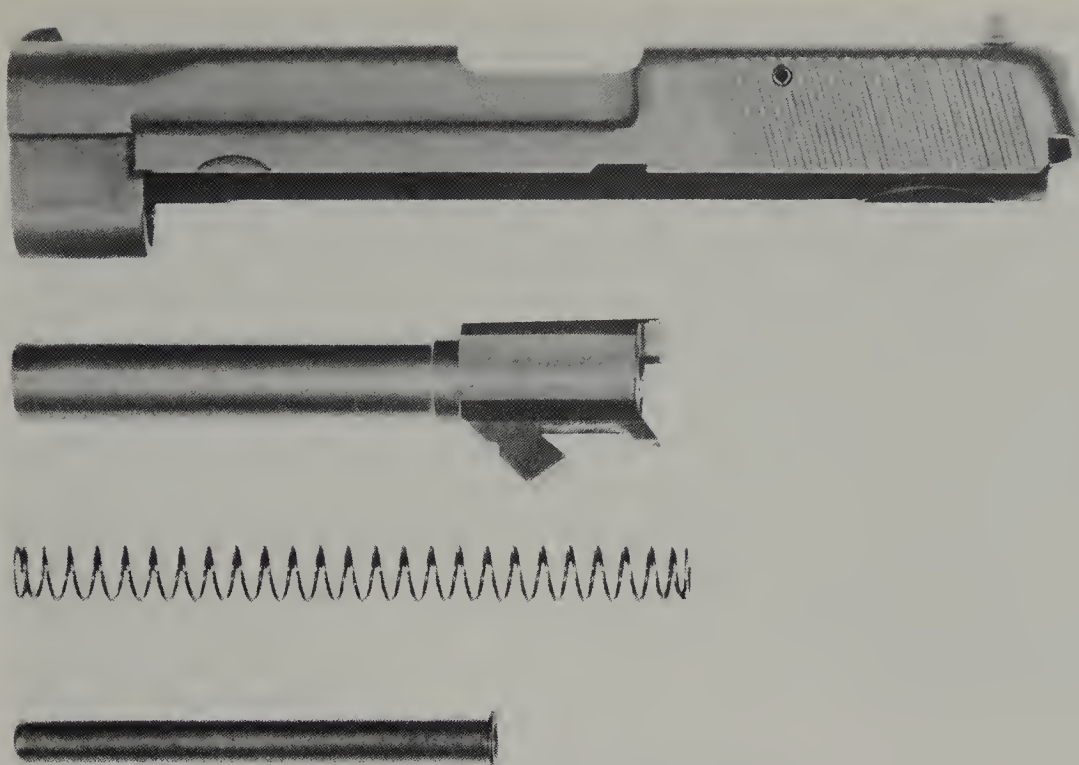
many of the trigger components are steel. The workmanship of parts such as the multi-strand recoil spring is typical of SIG, as is the P 210-like construction, with the slide carried on rails inside the frame. This feature is most obvious when the slide is retracted to its limit, where the additional support offered by the SIG system compared with (for example) the FN-Browning High-Power is most obvious.

The SIG handles pleasantly, though, like most guns with large-capacity magazines, there is a perceptible shift in balance — an increasing muzzle-heaviness — as cartridges are fired. The P 226 points adequately, and has an eminently controllable recoil. The well-chequered black plastic grips and backstrap improve grasp, and minimize hand-slip. The slide is held open after the last round has been fired and ejected, whereupon the magazine catch can be pressed, the magazine dropped and replaced — though practised firers will reload before the last shot is fired. A push on the slide stop allows the action to close, feeding a fresh round into the chamber. Pressing down on the de-cocking lever drops the hammer safely and the gun can be holstered with confidence, though the de-cocking system does not double as a manual safety catch and springs back to its upper position.

The SIG P 226 functioned flawlessly with a variety of cartridges, ranging from weak commercial loadings to notoriously vicious British 9mm Mark 2Z cartridges. Like all guns, it is necessary to experiment with differing loadings to find the optimum — which, with the trial pistol, proved to be 4in-diameter groups at 25 yards. There was, however, a marked difference between the trigger pull necessary to fire the first (double-action) shot, about 6.4kg or 14.1lb, and the crisp 2.3kg (5.1lb) single-action operation thereafter. The single-action pull was excellent, with a mere 6mm travel and a crisp break-point, though the double-action travel of nearer 15mm was less satisfactory. The 'average diameter' of the groups is rather misleading, as attenuation was often twice as great vertically as horizontally. The weakest of the loadings, such as Finnish Lapua, was only just capable of moving the slide back to the limit of its travel and could, perhaps, prove troublesome in some individual guns.

The fixed sights — a blade and an open notch — are sturdy, and unlikely to catch on the draw even though the edges are best rounded-off after purchase. Though there may seem little possibility of changing the sights to adjust to the point of impact, SIG not only offers sight-adjusting tools to move the sights in their dovetails but also replacement sights of differing height.

Not only does the P 226 rank among the world's best combat pistols but it is also a worthy descendant of the P 210. Whether its alloy frame and slide are as durable as those of its more traditionally-made predecessor may be disputed, though, apparently, all but one of the guns submitted to the US JSSAP XM9 pistol trials passed the mandatory 5,000-round endurance test.



The SIG P 220, shown here field-stripped, is a sturdy modern combat hand-gun – particularly in its latest modification, the P 226. Locking is effected by lifting the barrel block into the ejection port. (Courtesy of SIG).



(Right) The P 220 locking block rises into the slide by way of the ejection port, as shown here. (Courtesy of SIG).

SIG P-230

Type: double-action semi-automatic pistol.

Maker: J. P. Sauer & Son GmbH, Eckernförde, Germany.

Calibre: .380 acp (.32 acp and 9mm Super Police have been available in Europe and elsewhere).

Overall length: 167.64mm, 6.6in.

Barrel length: 91mm, 3.6in.

Weight, empty: alloy frame 510.3gm (18oz), stainless steel 638gm (22.5oz).

Magazine capacity: 7+1 in .380.

Construction: blued alloy frame and stainless steel.

The P-230 is a finely-made blowback pistol which lives up to the expectations one normally has of a SIG product. The P-230 is the most accurate .380 auto I've fired and since I'm fond of this calibre I've fired most models which have been produced for the 9 × 17mm round. Very well-balanced and designed for natural pointing, the P-230 comes on to target quickly and naturally, allowing it to be brought into action from concealment well, too. During the loading process, there is a short time lapse after a cartridge is chambered when the P-230 has the hammer cocked but no safety on; however, there is an excellent internal firing-pin block which is not released until the trigger is pulled. The other safety is a hammer drop which when activated safely lowers the hammer on a loaded chamber. Disassembly is quite

simple as there is a flat, compact lever on the frame which can be rotated 90 degrees to allow the slide to be removed.

The P-230 has been made in three versions: blued steel, stainless steel, and blued steel with alloy frame. The latter two have proven by far the most popular. Although I like stainless steel and the durability it gives, in a pocket pistol I normally go for lightness in weight; hence, I prefer the alloy-framed version of the P-230. Unfortunately, the P-230 is too bulky to fit really well in a pocket, and this is my basic test for a .380. If I'm going to carry a holster gun, then I'll go with something with more stopping power such as a Glock 19 or 23. Part of the problem with the P-230 as a pocket pistol is the magazine which incorporates a finger extension at the base. Admittedly, for many this is a useful feature when shooting the P-230, but it makes concealment and the draw from concealment more difficult so, on balance, I consider this a negative feature. The P-230 is excellent for one type of concealed carry by my reckoning; I consider it an exceptionally good pistol for the 'fanny pack' carry. These waist pouches have become a very popular method for carrying a concealed pistol in the United States and the combination of light weight yet excellent accuracy makes the Alloy-framed P-230 an excellent choice here.

The magazine release for the P-230 is located on the butt, which some combat purists dislike, but I really don't see it as a problem for two reasons. First, rapid magazine changes are rare in any case but especially with pocket autos.





Above: The author is firing the alloy-framed version of the P-230. Even this lighter version has little recoil with the .380 round.

Far left: The P-230's bottom magazine release and finger extension magazine are both visible in this picture. Although in general, a frame magazine release is desirable on a combat handgun, on a pocket pistol this is less critical. The finger extension aids in shooting but interferes with pocket carry.

Left: The P-230's extractor also acts as a loaded chamber indicator when the red portion is showing.

Right: One of the great advantages of the SIG P-230 is its accuracy. This 50-foot group is a good indication that the small SIG shoots like a much larger pistol.



Secondly, with practice one can make almost as fast a magazine change releasing the bottom mag release with the weak hand thumb as is possible with a frame release button. There's less chance of losing one's magazine, too, in a 'tactical reload' when a couple of rounds may remain in the magazine. The P-230 does not incorporate a magazine safety, but this is a feature that I do not consider a necessity, though it does help prevent accidental discharges when someone forgets to check a chamber after removing a magazine. There is also a loaded chamber indicator incorporated into the extractor, a red portion of which protrudes when the chamber is loaded.

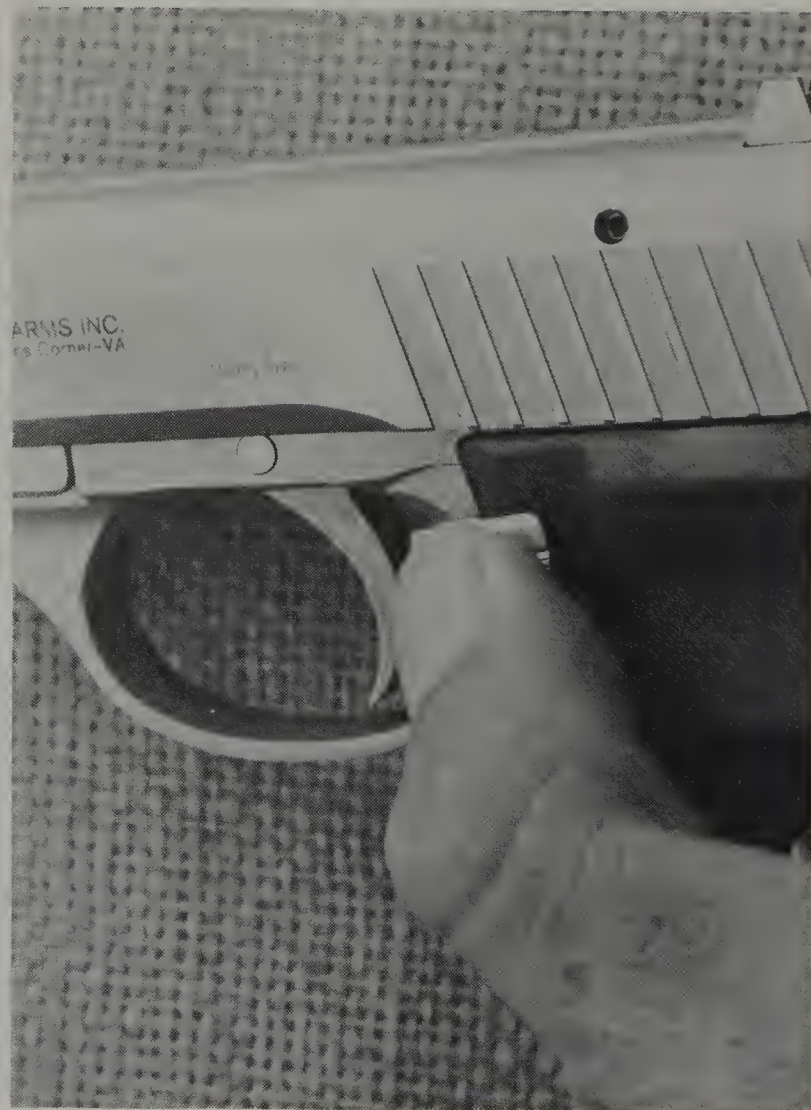
As pocket pistol sights go, the P-230's aren't bad, though they aren't exceptional either. I'd rate them a bit above average. The front blade has a white dot and the rear square notch incorporates a white bar for ease of acquisition. I've shot mine at ranges out to 50 yards with surprising accuracy so the sights will get the job done. Trigger pull on the P-230 is relatively good, most feel better than the Walther PPK. Double-action is especially smooth, though there's quite a bit of excess takeup on single-action.

Reliability is good with the P-230. My stainless one has had about 700 rounds fired through it with no malfunctions after the first 50-100 rounds, while I can only remember one malfunction with my alloy-framed version out to about 300 rounds. That was attributable to a hollow-pointed bullet that somehow had become deformed. I normally use Federal 90-grain Hydra-Shoks in my P-230, though it also performs well with CCI-Lawman's 88-grain JHP and Winchester's 85-grain Silvertip. My best ever 50-foot group with Hydra-Shoks was about 2 inches, though I'm normally satisfied with 3-4 inches. Recoil is more noticeable with the alloy-framed gun as one might expect, but it certainly isn't uncomfortable.

I recommended the P-230 very highly. For someone wanting a compact arm to keep aboard a boat, for example, to provide self-defence, the stainless steel P-230 makes an excellent companion. I would also recommend the stainless version for home-defence. For concealed carry on the person, however, I'd have to go with the alloy-frame and the weight savings.

One real disadvantage of the P-230 vis-à-vis the PPK is its greater bulk as this picture illustrates. The PPK is at left, the P-230 at right.

The SIG P-230's hammer drop safety allows the hammer to be safely dropped on a loaded chamber to ready the pistol for double-action usage.



Smith & Wesson J-Frame Revolvers

Type: double-action or double-action only revolvers (Models 640 and 642).

Maker: Smith & Wesson, Springfield, MA, USA.

Calibre: .38 Special.

Overall length: 162mm-165mm (6.375in-6.5in.)

Barrel length: 51mm, 2in (76.2mm, 3in available).

Weight, empty: 397gm-567gm, 14oz-20oz.

Cylinder capacity: 5.

Construction: blued steel (Models 36 and 49), blued steel with alloy frame (Models 37 and 38), stainless steel (Models 60, 640 and 649), stainless steel with alloy frame (Models 638 and 642), fixed sights, though very limited numbers have been produced with adjustable sights.

Since its introduction in 1950, the S&W Chiefs Special and its variations have established themselves as the premier snubnosed .38 Special revolver. Compact enough to fit in a pocket yet powerful enough to hit with real authority, the J-frame snubs are popular with police officers and civilians alike. In fact, as many US police departments convert from revolvers to semi-automatic pistols, most officers laud the conversion; however, a commonly expressed concern is that they will be able to continue to carry their beloved S&W J-frame snubs as ankle holster or pocket guns for off duty or backup stage. Other variations of the basic Chiefs Special (now designated the Model 36) were introduced throughout the 1950s and early 1960s, but perhaps the most important variation was the Model 60 introduced in 1965 as the first general production stainless steel handgun. From those beginnings, stainless steel has achieved wide popularity due to its enhanced resistance to corrosion from moisture, especially salt water or perspiration.

Many other characteristics were secondary to size in the J-frame snub's design, and those of us who like this little revolver agree with that decision. In fact, one of the greatest mistakes I see made with the small S&W revolvers is the addition of oversized grips which admittedly make the gun easier to shoot but also eliminate some of its greatest advantage – its compact size. My own choice is to replace the roughly checkered wood grips found on many examples with smooth grips of Ivorex and to add a grip adaptor. These options do not interfere with concealing the revolver but do make it easier to shoot. The 5-shot cylinder of the J-frame keeps the revolver from being as bulky as 6-shot versions and also adds strength by positioning the bolt cuts over the thickest portion of the cylinder. The round butt also aids in concealment as do the ramp front sight and rear notch sight milled into the top of the frame.

I have owned every version of the J-frame snubs except the rarely encountered Model 50 with adjustable sights, a feature I consider extraneous on this weapon. My own favourites have traditionally been those models which

shroud or eliminate the exposed hammer since it can catch on a pocket lining during the draw. I also prefer the alloy-framed versions because they are lighter and the stainless steel versions because they withstand the dampness encountered from perspiration, etc. Until the last couple of years I was out of luck in getting a J-frame snub that had all three of the characteristics I prefer, but Smith & Wesson now produces the Model 638 and 642 which meet all my criteria.

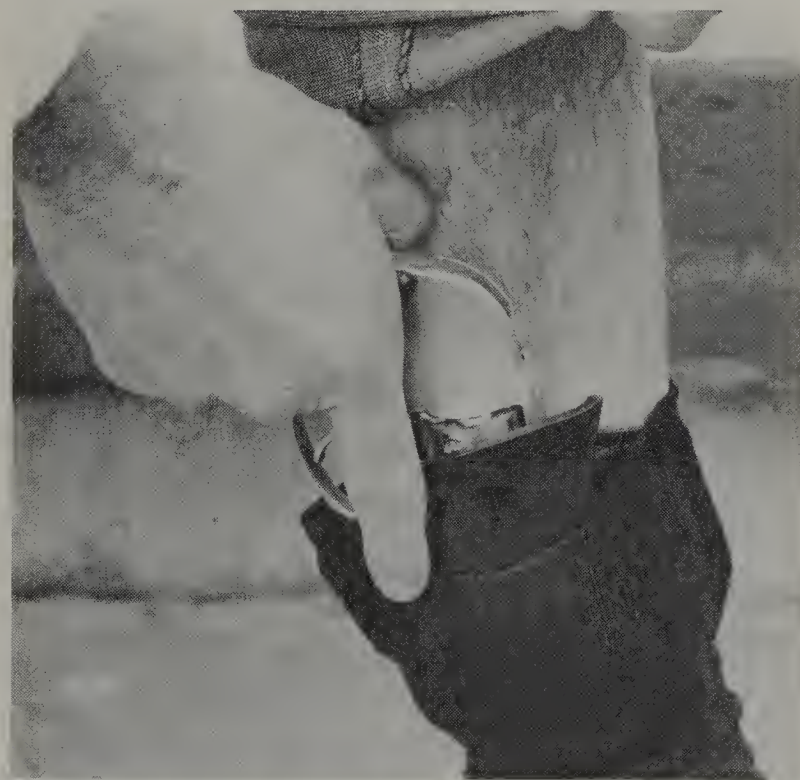
The 638 is a stainless and alloy version of the Model 38 Bodyguard, long my favourite snub-nosed revolver. The Bodyguard incorporates a hump-backed hammer shroud which exposes only a small hammer button. As a result, the 38 or 638 can be drawn from a pocket without worry that the hammer will snag on the lining. In an emergency, the revolver can even be fired from within the pocket, though I should note that the lining frequently catches fire in this case. In a situation where the better trigger pull available with single action fire (i.e., a longer-range shot) is needed,



This group of three S&W 'Bodyguards' illustrates the different finishes available – from top to bottom: Model 638, blued with alloy frame; Model 638, stainless with alloy frame; Model 649, stainless steel. Each has its own advantages.

the Model 38 or 638 can still be cocked manually. Since I consider these small revolvers double-action weapons, I rarely use this feature, but many do prefer it. Although I'm willing to tolerate the greater recoil of the lighter alloy-framed guns in return for their being easier to carry, many don't like alloy frames. For them the same revolver is available in all steel as the Model 49 or all stainless steel as the Model 649.

Recently Smith & Wesson also reintroduced a double-action only Centennial model that completely lacks an exposed hammer. This gun is available in all stainless steel as the Model 640 and in alloy and stainless as the Model 642. Most of the same comments apply to it, though the option of single-action fire is not available. These days, I normally use a 642 with smooth Ivorex grips and a grip adaptor as my snub-nosed carry revolver.



For those liking the conventional Chiefs Special with exposed hammer, the Model 36 is the blued steel version, the Model 37 the alloy-framed version, and the Model 60 the stainless steel version. Once again, I don't consider the option of cocking the hammer a big deal, but these are the models for those who do.

The small, 'rope-like' grip, as it has often been described, is a feature that many dislike about the J-frame series and I'll admit that it makes the gun uncomfortable to shoot for many. I have about medium-sized hands and my little finger is normally positioned under the butt on this revolver. Nevertheless, I like the grip. It helps the gun conceal better, and it feels right to me. Another common criticism of the J-frame snubs is that the short ejector rod will not fully extract cartridge cases. This is true, but with practise, one learns to tip the revolver upward so that gravity aids extraction, and to give the rod a sharp whack. Let's face it, this is not a revolver designed for use in a heated gun battle. It's a close-range concealment weapon. Still, enough plain clothes police officers and armed civilians carry it as their only weapon that the possibility of getting into a real gunfight packing a J-frame snub is certainly there. I'll admit that in my early days as a police officer, I often carried a Model 36 with only the five rounds in the chamber when I was off duty. I now wouldn't advocate this for anyone carrying this revolver as a lone weapon. A minimum of one reload should be carried, preferably in a speed loader, but if one's attire precludes this, then in an ammo pouch. The side pocket holster from Thad Rybka in which I carry my J-frame snubs comes with two cartridge loops built into the holster to hold two extra rounds, so that even if I carry my snub as a second gun I have a couple of spare rounds. The J-frame was at its best as a backup to police .38 Specials or .357 magnums. Even if the officers were carrying speed-loaders, the ammo was interchangeable from the .38 Specials. Many officers who did carry a J-frame backup and carried a .357 Magnum revolver as a primary arm would



carry .357 rounds in their primary gun but would carry .38 Special reloads so that they could fit either gun.

Don't expect match target accuracy with the J-frame snubs, but don't be surprised if with practice you shoot very, very well with them. These are very accurate little pistols, but they need more practice time than larger guns since shooting them well is not quite as easy. The sights are rather hard to acquire, especially in poor light or, in the case of the stainless pistols, bright sunlight. The small size of the revolver, on the other hand, positions it well in the hand for natural point shooting, though I still use the sights when I can. The cylinder latch is typically S&W, checkered and of the push-forward type. Because everything on the J-frame snubs is of necessity close together, I've known some users who find that this latch abrades the thumb during recoil. My simple advice is to position your thumb differently if you run into this problem.

Smith & Wesson double-action trigger pulls usually need some wearing in these days, and the best way to wear in an action is by taking the gun out and shooting it. That way, one is developing one's skill at the same time. On my Model 642, the double-action pull is a bit heavy, but it is consistent, not stacking as it reaches the letoff.

I usually shoot my J-frames at 10 yards for accuracy testing since I consider this about the maximum range they will normally be used. However, I have a friend who shoots his engraved Model 49 quite well at ranges as long as 50 yards at pepper poppers. All seem to shoot 4 inch or better groups consistently, while my most accurate one, my Model 649, is normally good for 2½ inch or better groups when I'm having a good day. These groups are fired double-action. I normally like heavier semi-wadcutter cartridges for the J-frame snubs so I use Federal CCI 158-grain semi-wadcutter loads with my pistols. Another round I like is the Federal 129-grain Hydra-Shok, though Smith & Wesson does not recommend this load for its J-frames since it's a +P round. Different guns, of course, seem to respond best to

different loads. My 638, for example, shoots very well with Federal's 125-grain Nyclad Semi-wadcutter Hollowpoint, while one Model 60 I had did its best shooting with Remington 125-grain Semi-jacketed hollow points, once again not recommended by S&W since they are +P. Right now, I carry Federal 158-grain semi-wadcutter loads in my 642. As I previously mentioned, the J-frames require practice, and constant practice at that, to use them well. If you plan to use one of these revolvers as a carry gun, I would recommend that it be shot at a minimum every two months, with at least 50 rounds fired each training session. The training should emphasize double-action fire, perhaps at multiple targets and from whatever carry method you use. The 638, 642, or another S&W J-snub makes a great companion and compact insurance policy, but its short barrel and little grip are less forgiving than a larger revolver might be; hence, the emphasis I put on practice with this gun.

Although many keep a J-frame S&W as a home-defence revolver, I would personally prefer something a bit larger for this purpose, though I do keep my 642 as one of my home-defence revolvers since it thrusts readily into a pocket when I have to answer the door.

Another real use for the J-frames is as a hideout revolver for military personnel. I carried a Model 60 S&W in Vietnam and Thailand and always found it a comfort in situations when my rifle or Remington 870 shotgun could not be nearby. These days, I think if I could I'd take along a Model 638 to tuck into a utility pocket. The J-frame remains a favourite among those civilians and police who like the ankle holster as well because it doesn't show under most trousers. The alloy-framed versions are especially useful here because that extra 5 ounces becomes noticeable when one picks one's feet up thousands of times a day.

Overall, I rate the J-frame S&W, especially the Models 638 and 642, as the best snub-nosed revolver in the world and one of the classic combat handguns of all time.

Opposite page, top left: The S&W J-frame snub revolvers carry very well in an ankle holster. In this case, the author is drawing a Model 638.

Far left: Distinctive features of the J-frames include the ramp front sight and the short ejector rod which does not fully kick empty cases out.

Left: Many firers do not like the small J-frame grips, but the author believes that putting oversized grips on these guns diminishes their concealability. Smooth grips such as Ivorex, however, do make the guns easier to fire.



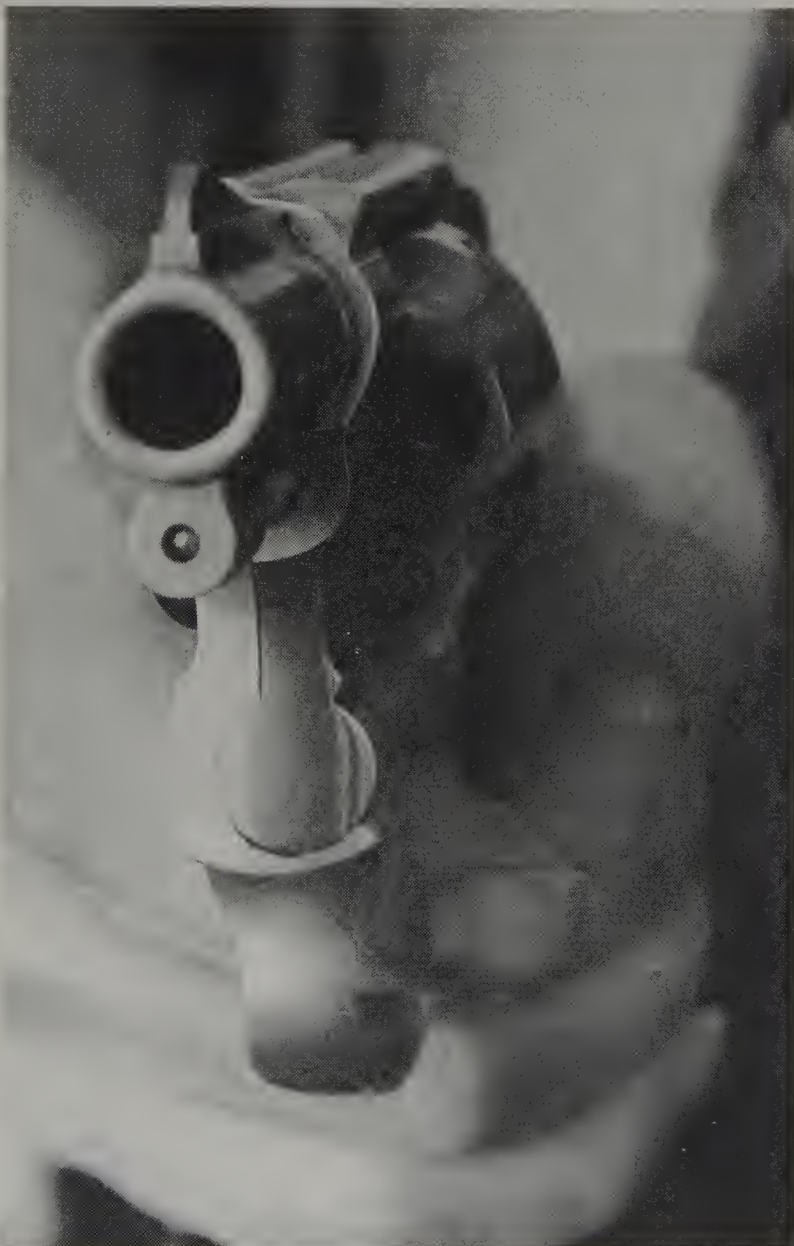
The author firing double-action groups with the Model 642 using the special night shooting target developed by Julio Santiago.



The first stainless steel regular production handgun – the S&W Model 60.

Below left: Despite its small size, the J-frame S&W has good intimidation effect because of its .38 Special chambering, especially when seen from this angle.

Below: That the J-frame can be fired quite accurately is apparent from this 10-yard group from the author's Model 638.



Smith & Wesson 3rd Generation Autos

Type: double-action semi-automatic, double-action only (self-cocking) semi-automatic.

Maker: Smith & Wesson, Springfield, MA, USA.

Calibre: 9×19mm, .40 S&W, 10mm, .45 acp (various models in each calibre).

Overall length: various, ranging from 162mm (6.375in) for the 3913 and 3914, to 216mm (8.5in) for the 4506.

Barrel length: various, ranging from 89mm (3.5in) for the 3913 and 3914, to 121mm (4.75in) for the 4506.

Weight, empty: various, ranging from 737gm (26oz) for the 3913 and 3914, to 1,106gm (39oz) for the 506.

Magazine capacity: various, determined by calibre and grip size (i.e., 3913 – 8+1 of 9×19mm, 4516 – 7+1 of .45 acp, 4006 – 11+1 of .40 S&W, 5906 – 14+1).

Construction: blued steel with alloy frame, stainless steel with alloy frame, stainless steel; fixed Novak-style combat sights, fixed sights, or adjustable sights.

Although Smith & Wesson has been producing service-type automatics since the 1950s, it was not until the introduction of the 3rd Generation autos in 1988 that Smith & Wesson really got it right with a stable of pistols that could attempt to compete with the best large autos in the world. By redesigning their grip and working hard at improving reliability and trigger pull, Smith & Wesson helped counter the inroads into their traditional dominance of the American police market that were being made by high-quality European automatics. In realization that there is a very diverse market for auto pistols, too, Smith & Wesson now offers autos in four calibres, two primary action types, and various size and weight options.

I haven't shot every single variation of the 3rd Generation Smith & Wesson, but I have fired at least eight different models, and I shoot the 6906, 4506, and 4516 all the time. As a result, I have changed my previous luke-warm appraisal of Smith & Wesson autos to a much more enthusiastic endorsement. From the smallest to the largest, Smith & Wesson's autos are comfortable to shoot, with far more ergonomic grips than any previous self-loader from Springfield, MA.

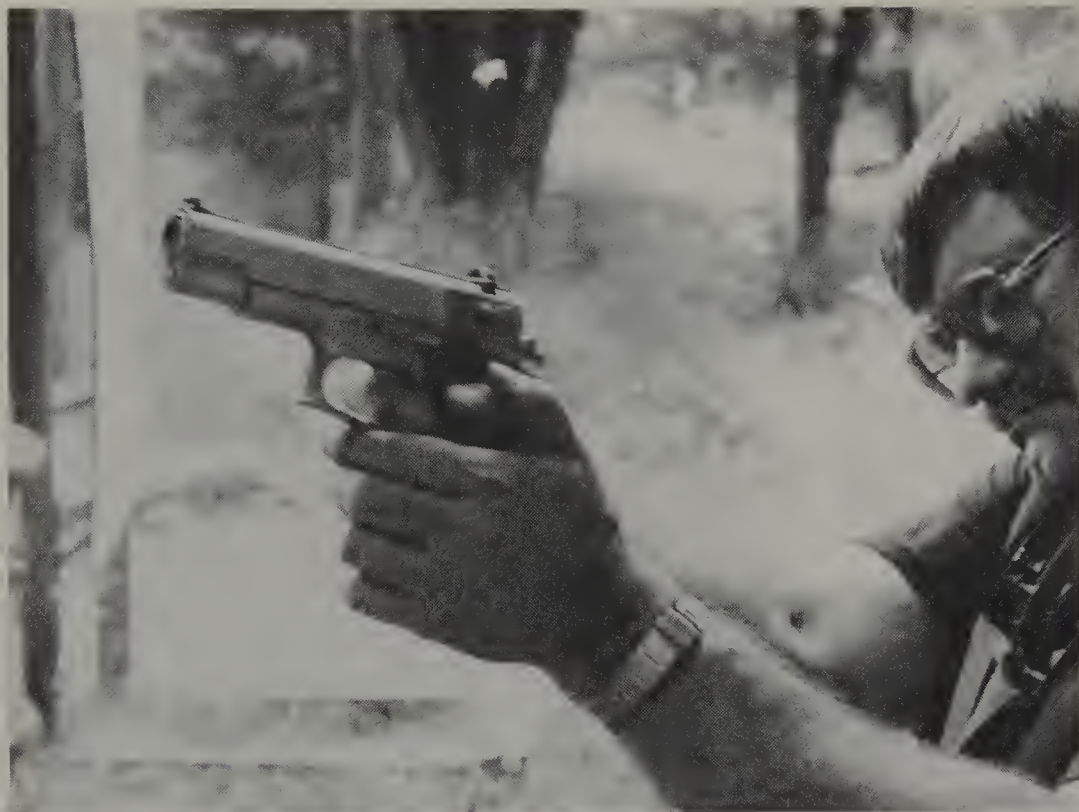
Two things that are quickly noticeable about the third generation autos are the Delrin grips which wrap around the frame and cut down on grip bulk, and the Novak low mount combat sights used on many of the models. I like these sights and the standard fixed sights very well. I do not like the 'ears' which S&W still includes on models with adjustable sights as I find them unwieldy and ugly. One other real positive aspect of the new-style grips is that they include a relief cut behind the trigger guard which makes them easier to grasp correctly during the draw, an important feature on a combat pistol. I've used other pistols that had extremely comfortable grips, but which were almost impossible to grasp naturally during a draw, which put one at a great disadvantage when the pistol was needed rapidly.

Even women with very small hands normally find the grips on the 9mm or .40 S&W 3rd Generation autos at least usable if not comfortable.

Almost all the 3rd generation autos incorporate an ambidextrous hammer drop safety on the slide, though there are the following exceptions: the double-action only models do not normally have a safety unless so ordered and the 'Lady Smith' versions of the 3913 and 3914 only have a strong side safety for right-handed shooters to cut down on width and protrusions to aid in concealed carry. One thing I have noticed on both my 4516 and 6906 is that the safety seems to dig into my side when I carry the pistols in an inside-the-waistband holster more than any other autos I own. This safety allows the hammer to be safely dropped on a loaded chamber and, like the Beretta and Ruger, offers the possibility of safely loading the weapon by putting the lever in the safe position before pulling back the slide. Third generation autos also have an automatic firing-pin safety which prevents the weapon being fired unless the trigger is pulled all the way to the rear.



At left the earlier 'thin' frame used on the 4506, at right the later 'thick' frame. The author finds the thinner frame rides better in a holster.



Recoil is noticeable with the 4506 but certainly no more so than any other .45 acp pistol. In this case, Federal Hydra-Shoks are being used.

Right: The FBI's 1076 autos incorporated a frame-mounted hammer drop safety of the SIG type rather than the more standard slide-mounted hammer drop.

Far right: To prevent the 1076 10mm magazine from being inadvertently used in another auto, the magazine well is fitted with a groove and the magazine with a nipple.

Right: The FBI 1076 hammer rides slightly protruding from the frame. Note also the low profile combat sights.

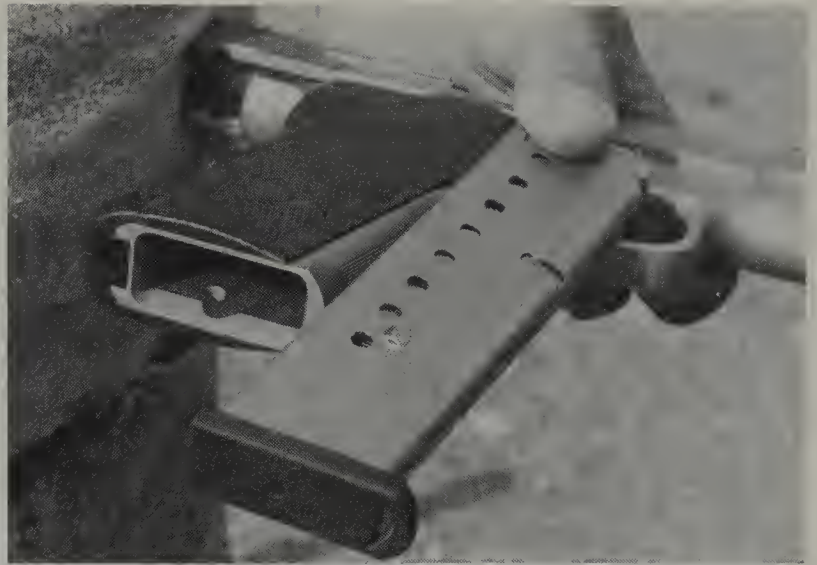
From top to bottom – the three primary S&W Third Generation 9mms: 5906, 6906, 3916.

One particularly noteworthy group of 3rd generation autos are the double-action only, or 'self cocking', autos in which the action of the slide ejects the spent round and chambers a fresh round but does not cock the hammer. Instead, a double-action pull is required for each shot. This offers an additional safety margin, particularly after a round has been fired, when on a standard auto the hammer would be cocked. Many users prefer the double-action only Smith & Wesson autos because the trigger rides farther back in the trigger guard creating a much more comfortable reach for the trigger finger. Normally, the double-action only pull is lighter than the double-action pull on the normal double-action/single-action autos runs between 11.5 and 12.5 pounds. Of course, their single-action pulls are much lighter at 5 to 6 pounds. Trigger pulls on all the 3rd Generation Smith & Wessons tend to be acceptable, and some are quite good, though the single-action pulls on most I've tried have a little creep. Still, I would rate the Smith & Wesson trigger pull as one a shooter can learn to manipulate accurately with practice.

The earliest 4506s had a slightly thinner frame than the later versions. I understand this increase in thickness was due to the introduction of the 10mm autos and the need for a sturdier frame to handle increased pressures on the high-velocity 10mm load. I have found these earlier autos preferable as they fit into a holster more comfortably and ride slightly better on the hip. When a gun is carried concealed for 12-hour stretches, fractions of an inch and of an ounce often loom large.

I've found the 3rd generation auto very reliable, but in some of the 10mm and .45 models at least there seems to be





a consistent problem in reliably feeding Remington ammunition. When the FBI was allowing agents to carry 4506s many encountered this difficulty with the Remington issue ammo and when I borrowed a box and tried it in my 4506, which had never malfunctioned, it had exactly the same problems. The 10mm versions have also had some problems with Remington. I've found that Federal match or Hydra-

Shok ammunition has normally shot most accurately in my 4506 and 4516 and that Cor-Bon 150-grain JHPs have shot extremely well in the 4006s I've tried. My 6906 shoots well with Federal 115-grain BP JHP and with Federal 115-grain +P+ ammo. Even when I'm shooting at my best, though, I can't match a SIG, Colt Government Model, or Glock in accuracy with any of my Smith & Wessons. Don't get me wrong; they're good service autos which will shoot into 3-4 inches for me at 50 feet, but I have SIG service pistols that will halve that. Smith & Wesson makes good auto pistols these days, but they still aren't as accurate as I would like them to be, and most of the people I know who shoot them concur.

I find when shooting the .45 S&Ws, especially, but also to a lesser extent with the other calibres, that the pistols seem to operate with a distinctive jar of the slide cycling, one that is more noticeable than with most auto pistols. I find this at least a little disconcerting when shooting S&W autos, though after I've put about 50 rounds through one I get used to the sensation and find it much less of a distraction. In normal service use, however, one doesn't get a 50-round 'warmup'.

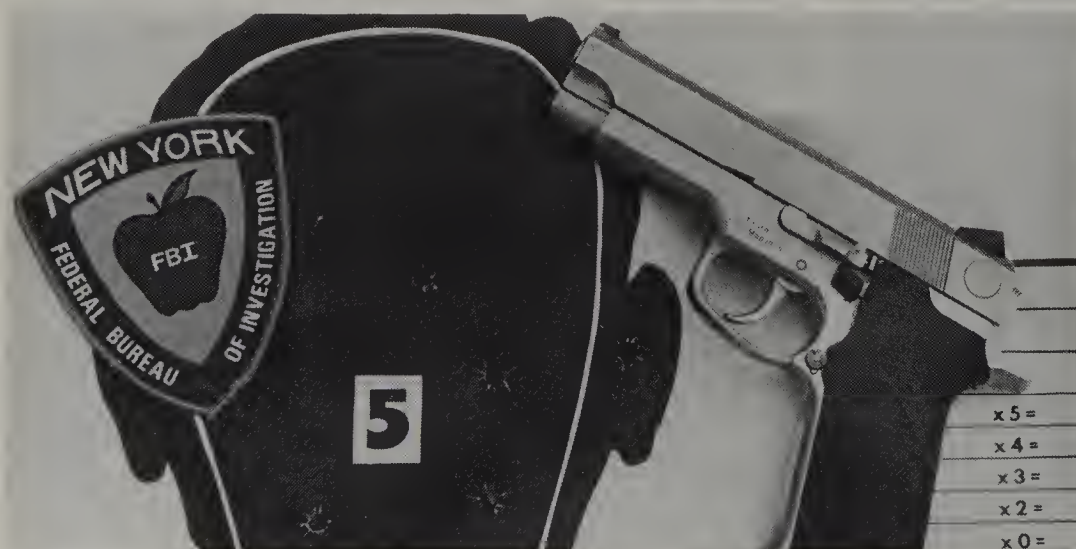
One of the real advantages of the Smith & Wesson 3rd Generation autos is that they offer a reliable option for conservative police departments which are reluctantly adopting a service automatic. Since Smith & Wesson has such a long established reputation in supplying police weaponry, the purchase of a Smith & Wesson, even if it's an auto rather than a revolver, doesn't really become as controversial as the adoption of a pistol such as the Glock, the design of which seems revolutionary to most police agencies. With the 3rd Generation Smith & Wesson autos one gets a reliable service automatic with acceptable accuracy, good handling characteristics, and enough variants to satisfy almost any requirement. My own favourite is the 6906, followed closely by the 4506; but I haven't tried the compact .40 S&W version of the 6906 yet. I have a feeling that when I do I may find it the perfect compromise between power and size.



Although the author likes the 3rd Generation S&W autos, he still finds they leave something to be desired in accuracy. This 50-foot group with the 4516 and CCI Blazer 230-grain FMC ammo shows three rounds very tight then two off to the right. Normally, with Federal ammo, the author shoots groups of about 3 inches with the 4516 at this range.



At left the 4506 and at right the compact 4516.



Group fired with the FBI 1076 using FBI-issued medium velocity ammo at 50 feet.

Smith & Wesson Model 10

Type: double-action revolver.
Maker: Smith & Wesson, Springfield, Massachusetts, USA.
Calibre: .38 Special.
Overall length: 210mm, 8.25in.
Barrel length: 76mm, 3.0in (heavy pattern).
Weight, empty: 905gm, 32oz.
Cylinder capacity: 6.
Construction: blued steel, fixed sights.

The Model 10, 'Military and Police', dates from 1899; since its introduction, the M&P has been Smith & Wesson's best-selling gun and has established itself as the most popular duty revolver serving US police departments. It has also achieved wide distribution among police agencies in Europe and Asia.

The large number of variations of the Model 10 add to its versatility. It is available with round or square butts, and barrels of 2-6in. Alloy or stainless steel frames (Models 12 and 64 respectively) allow even more choice – though the most popular police version is probably the steel framed, 4in heavy-barrelled square-butt gun. For testing, however, I have chosen the 3in-barrel/round butt combination as an acceptable compromise between concealability and performance.

The Model 10 is a basic, functional design. Although it lacks frills, it is still a high-quality reliable weapon. Built on Smith & Wesson's medium ('K') frame, the Model 10 is sturdy enough to handle '+P' .38 Special loads in perfect safety. The same frame is, in fact, used for the .357 Magnum Models 19 and 66.

Although the square butt is more popular on the longer barrelled Model 10s, I prefer the round butt on the 2in- and 3in-barrelled models since it aids concealment. Even in 'snub' form, however, the Model 10 is a relatively bulky weapon better suited to a holster than a pocket. The 3in barrel is as convenient in a holster as the shorter type, and still clears leather and clothing fairly quickly. The sturdy heavy barrel not only adds ruggedness, but also helps to

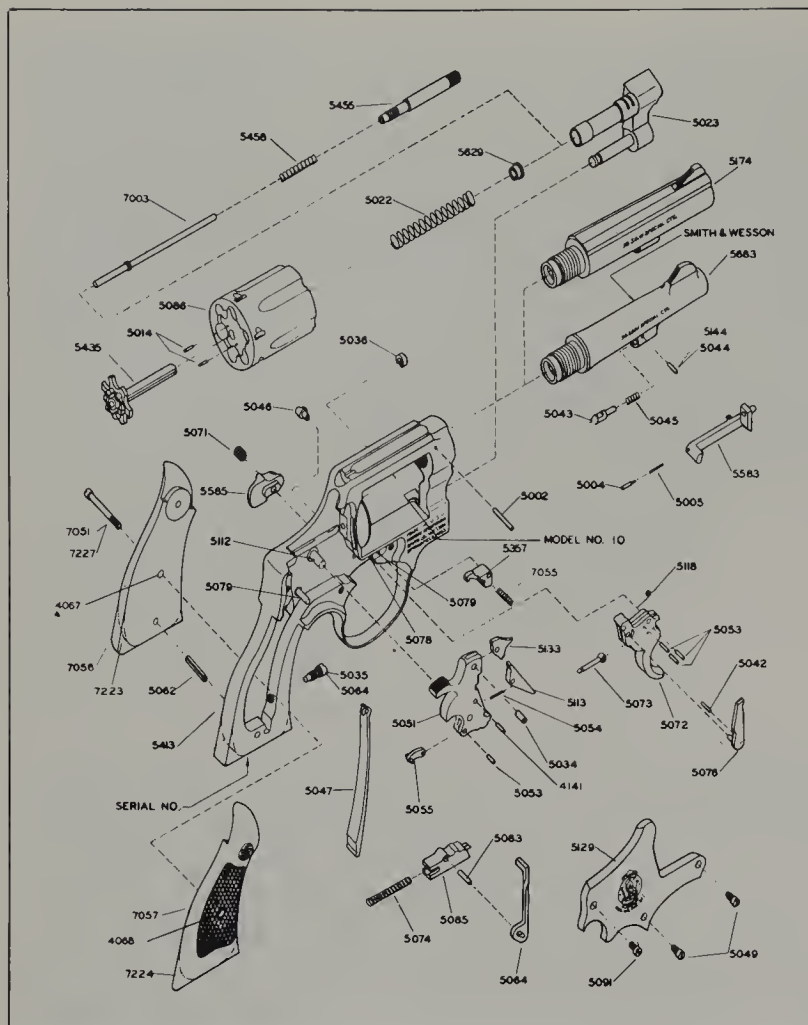
damp muzzle flip during rapid double-action shooting. Unlike the K-, L-, or N-Frame magnums, the Model 10 does not have an ejector shroud. It does, however, have a lug beneath the barrel which protects the front of the ejector rod.

Although the sights are not sophisticated, they are entirely satisfactory. Fixed sights have two advantages over the adjustable types in combat: they have fewer protrusions to catch during the draw and are less likely to be knocked out of alignment. Although they are not the fastest sights to acquire, I have some affection for the Model 10's. The top strap and the flat top of the barrel have a matt non-reflecting finish.

The Model 10 cylinder release lies on the left side of the frame, in traditional Smith & Wesson fashion, and must be pushed forward. The cylinder-wall thickness is sufficient to handle factory-loaded .38 Special ammunition, including '+P' types. Another advantage of the longer barrel is that the ejector rod allows full-length extraction of spent cases, though it is still advisable to raise the muzzle so that the cases will fall clear.

The hammer and trigger are the standard narrow types. Both single- and double-action pulls on the test gun were good, the latter being especially smooth and crisp. This allowed very effective double-action shooting: at 15 yards, 3in-diameter 6-shot groups were virtually standard. Firing three 'double taps' with 125gn Remington '+P' jacketed hollow-point loads showed that recovery time, balance and 'pointability' were all above average. Although the best groups were obtained with the 125gn Remington bullets, 110gn CCI-Speer and Federal jacketed hollow-points and 158gn Federal semi-wadcutters also performed acceptably.

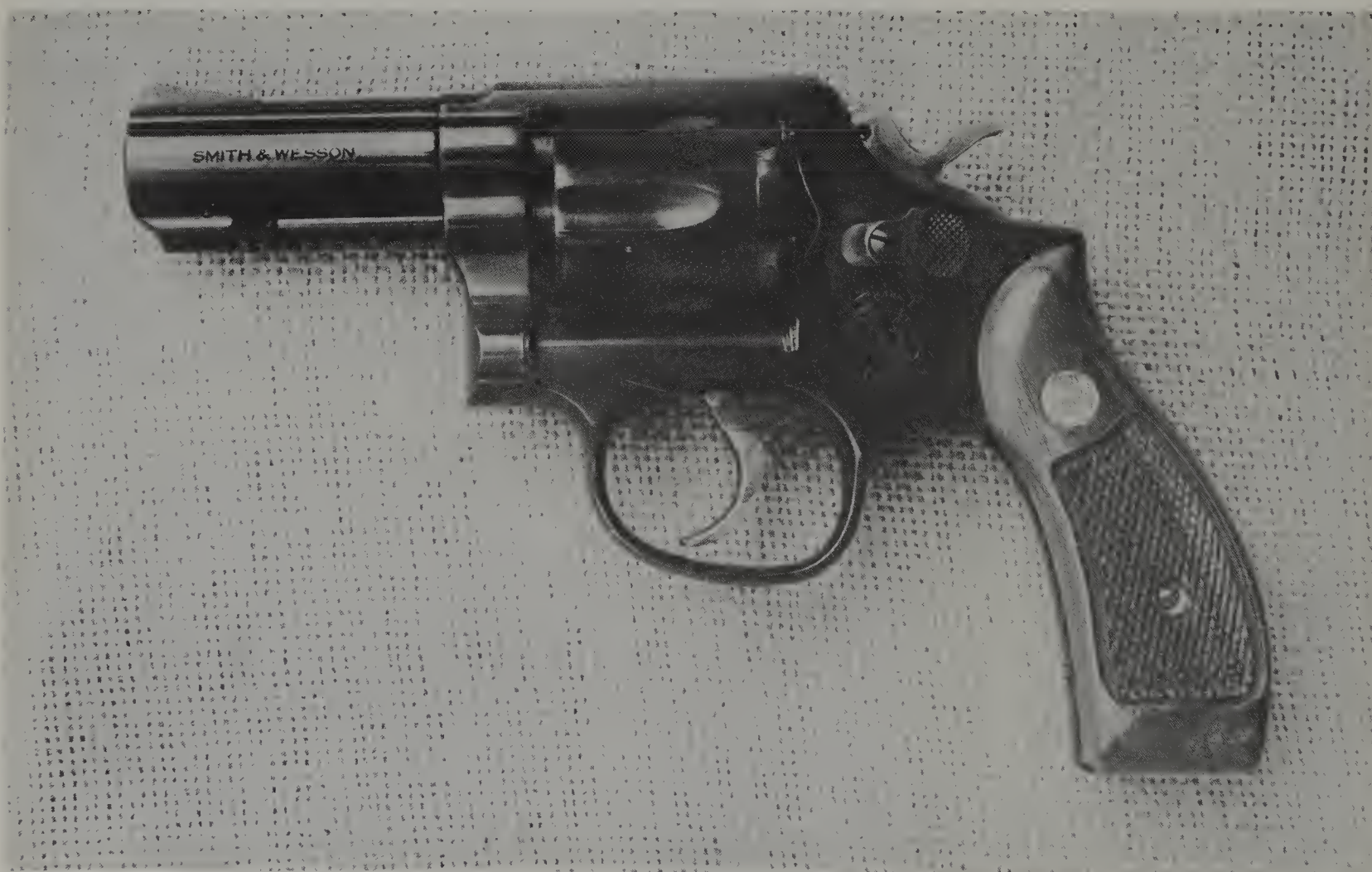
The design of the Model 10 has been well proven by time and experience. Its simplicity and lack of gimmicks make it an excellent choice for home or business defence, police or security units, or almost any task where the firepower of the autoloader or the power of a magnum is not required. Though .38 Special is not the optimum combat round, it is at least acceptable – particularly with '+P' or good standard semi-wadcutter loads. The Model 10 is one of Smith & Wesson's least expensive revolvers and thus offers a very cost-effective choice of combat arms. It is an excellent weapon and would still be good value at a higher price.



Key

4067	Escutcheon	5078	Trigger Stud
4068	Escutcheon Nut	5079	Cylinder Stop Stud
4141	Sear Pin	5079	Rebound Slide Stud
5002	Barrel Pin	5083	Rebound Slide Pin
5004	Bolt Plunger	5084	Hammer Block
5005	Bolt Plunger Spring	5085	Rebound Slide
5014	Extractor Pin	5086	Cylinder, with extractor pins & gas ring
5022	Extractor Spring	5091	Plate Screw, flat head
5023	Yoke	5112	Hammer Stud
5034	Hammer Nose Rivet	5113	Sear
5035	Strain Screw, round butt	5118	Hand Spring
5036	Hammer Nose Bushing	5129	Side Plate
5042	Hand Pin	5133	Hammer Nose
5043	Locking Bolt for guns with barrels over 2"	5144	Locking Bolt Pin for heavy bbl
5044	Locking Bolt Pin	5357	Cylinder Stop
5045	Locking Bolt Spring	5413	Frame for heavy barrel only
5046	Frame Lug	5435	Extractor
5047	Mainspring	5455	Extractor Rod for guns with barrels over 2"
5049	Plate Screw, crowned	5458	Center Pin Spring
5051	Hammer	5488	Stock Screw, round butt
5053	Hand Spring Pin	5583	Bolt
5053	Hand Spring Torsion Pin	5585	Thumbpiece
5053	Stirrup Pin	5599	Stock Screw, P.C.
5053	Trigger Lever Pin	5629	Extractor Rod Collar
5054	Sear Spring	5683	Barrel
5055	Stirrup	7003	Center Pin for guns with barrels over 2"
5062	Stock Pin	7051	Stock Screw, P.C.
5064	Strain Screw, square butt	7055	Cylinder Stop Spring
5071	Thumbpiece Nut	7056	Stock, P.C., left
5072	Trigger	7057	Stock, P.C., right
5073	Trigger Lever	7223	Stock, round butt, left
5074	Rebound Slide Spring	7224	Stock, round butt, right
5076	Hand	7227	Stock Screw for Rd. Butt

The Model 10 has the functional look to be expected of one of the world's most popular duty weapons.





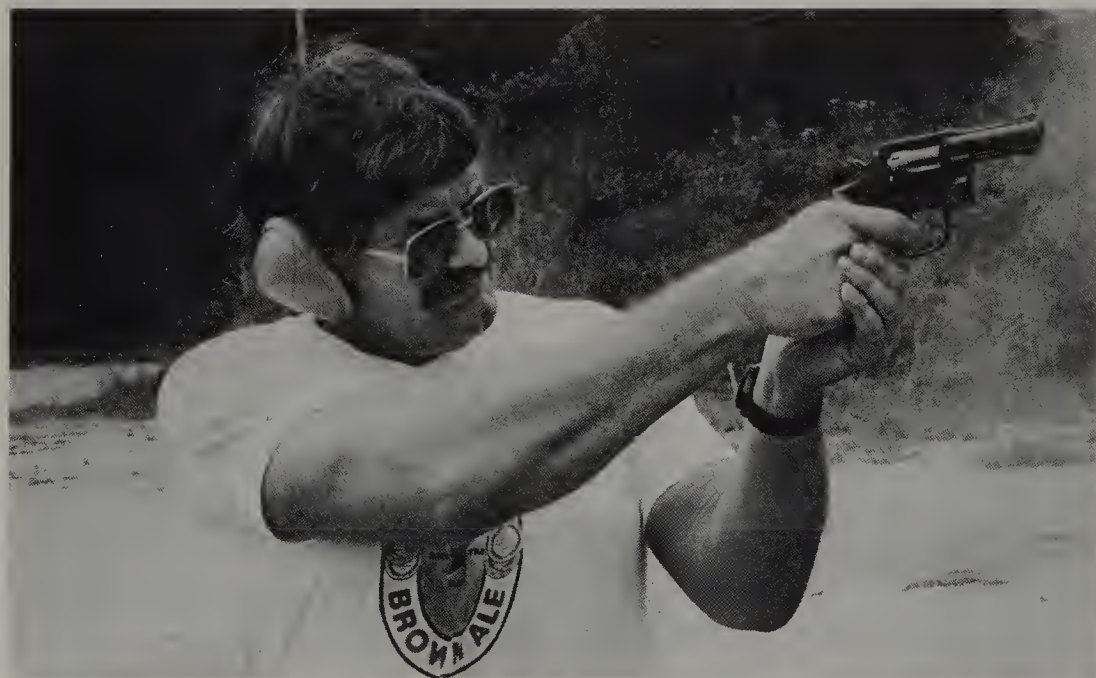
Round butt and fixed sights help make the 3in-barrelled Model 10 a good compromise between performance and concealment.

One advantage the 3in-barrelled Model 10 has over its 2in barrel variant is full-length extraction.





The heavy barrel on the Model 10 helps control muzzle flip, aiding accurate shooting.



The Model 10 is easily controlled, even in rapid double-action fire with full-power loads.



The S&W Model 10 displayed good accuracy, as this 15 yard double-action group attests.

Smith & Wesson Model 65

Type: double-action revolver.
Maker: Smith & Wesson, Springfield, Massachusetts, USA.
Calibre: .357 Magnum.
Overall length: 210mm, 8.25in.
Barrel length: 76mm, 3.0in.
Weight, empty: 935gm, 33oz.
Cylinder capacity: 6.
Construction: stainless steel, fixed sights.

This K-Frame magnum is the stainless version of the revolver issued by the FBI and is an extremely effective combat arm. The Model 65 is, in simple terms, a 'no-frills' version of the Model 66. However, the omission of the latter's adjustable sights proves advantageous in snap shooting. In addition, the clean lines of the Model 65 make it an especially formidable-looking weapon.

Smith & Wesson's K-Frame has proven sturdy enough for the .357 Magnum round although, supposedly, a steady diet of full-power loads will eventually loosen the gun and erode the firing cone. However, I normally shoot such loads in my Models 19, 65 and 66, and have never noticed problems – though the maker's caveat should be borne in mind by those who do a lot of full-power shooting with these revolvers. Theoretically, the K-Frame magnums were intended to be used with .38 Special for practice and .357 Magnum loads for duty, but I have two strong objections to this procedure: first, I believe that one should practice with the same round selected for duty and, secondly, I do not like to use the .38 Special in .357 Magnum chambers as the hot gases may cause excessive erosion.

Though the Model 65 is not particularly light, it is comfortably carried in any compact holster/wide belt combination for long periods. This is the great advantage of the K-Frame magnums over larger guns: they are reasonably compact while acceptably powerful.

The combination of a round butt and a 3in heavy barrel is especially good, as the gun remains relatively concealable while offering enough barrel length not only to provide an effectual sight radius but also counter muzzle flip. The barrel lacks the ejector shroud of the Models 19 and 66, though a protecting lug receives the catch on the ejector rod. The weight of the barrel contributes to the desirable muzzle heaviness of the Model 65. The fixed sights are surprisingly easy to acquire rapidly, and are acceptable out to at least 25 yards. The top strap and the top of the barrel have a matt finish, which facilitates sighting.

The cylinder of the 65 is the same as that of the Models 19 and 66, but lacks counter-bored chambers. This is really little disadvantage, though I admit I prefer the security of counter-boring; however, the savings in cost are undoubtedly passed on to the consumer. The chamber walls are sufficiently strong to handle factory-loaded .357 Magnum cartridges, but are by no means as thick as those on the big Models 27 and 28 or, for that matter, the 586/686 series. Consequently, factory ammunition or factory-equivalent handloads should be considered the most powerful permissible in this gun. An added advantage of the 3in barrel is that the ejector rod is long enough for complete extraction.

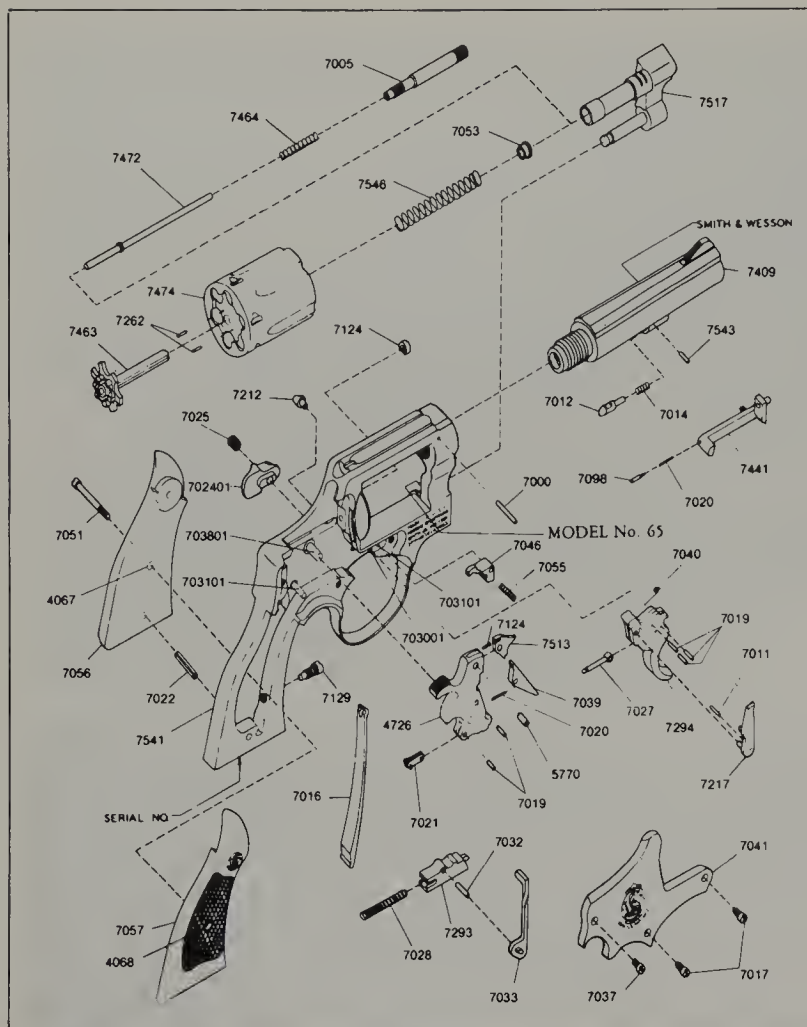
I have always found Smith & Wesson's round-butt K-Frame guns very comfortable to hold, and the Model 65 is no exception. The sharply chequered service stocks may cut into the hand when full-power magnum loads are fired continuously, but I still like them. On my 2.5in-barrelled 66, however, I use a compact Pachmayr grip that I would recommend to anyone who finds the standard Model 65 stocks uncomfortable. Any oversize grip will naturally detract from the concealability of the Model 65 'snub'.

The trigger pull on the test gun is quite good, especially in double-action mode. The trigger is the smooth combat type, and the hammer is simply the standard service version. Both are simple, functional items that are perfectly suited to this highly functional magnum revolver.

The Model 13 is the blued version of the Model 65, darker and less reflective, with advantages in concealment. However, for anyone working in humid condition, where the gun is carried next to a perspiring body, stainless steel is preferable – particularly as it is possible to have stainless weapons specially blued.

The 65 was one of the most enjoyable of all the test guns to shoot on the range. Despite its noticeable recoil with full-power loads, I felt no discomfort even after firing two hundred rounds of factory-loaded .357 Magnum ammunition in two hours. Loads included 110gn CCI-Speer, 125gn Federal and 140gn CCI-Speer jacketed hollow-points, plus some 125gn Remington semi-jacketed hollow-point loads. The heavier CCI-Speer bullets seemed to give the best results, though the others performed satisfactorily. The diameter of the 15-yard groups averaged 2-3in, opening to 4in (or a little more) at 25 yards.

There are so many good .357 Magnum revolvers on the market that it is difficult to rate one as the best. For concealed carry, though, the 3in-barrelled Smith & Wesson Model 65 is one of the front runners. I also approve it for home defence, assuming good expanding-bullet loads are used, as it is a particularly versatile combination of power and small size. The reasonable price is another point in the S&W 65's favour.



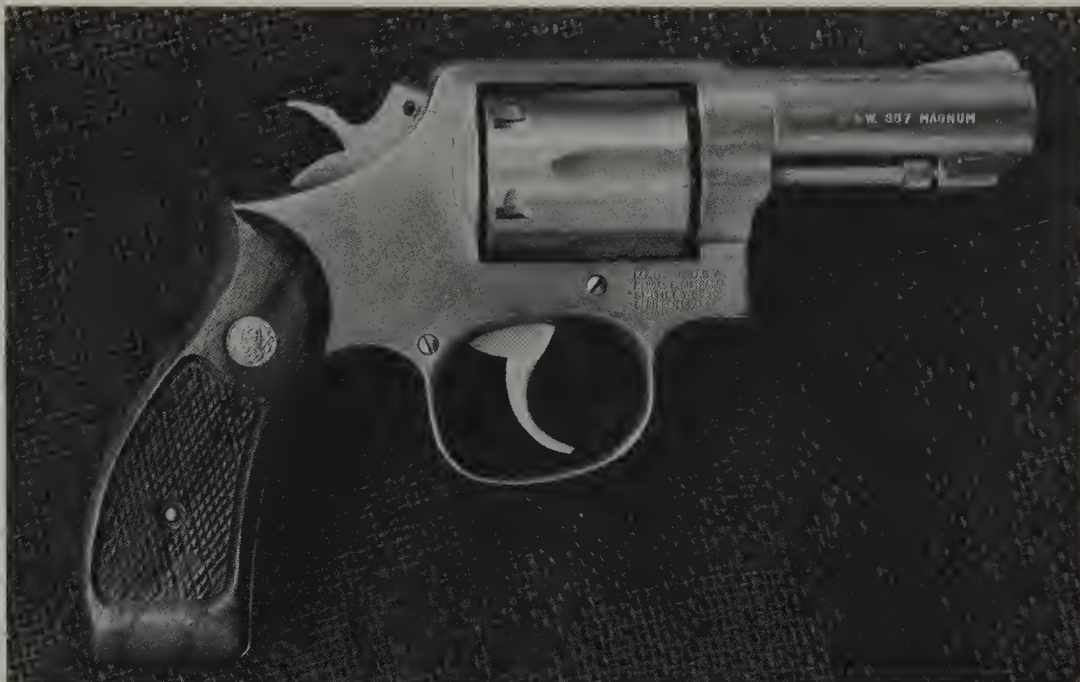
Key

4067	Escutcheon	703101	Cylinder Stop Stud
4068	Escutcheon Nut	7032	Rebound Slide Pin
5770	Hammer Nose Rivet	7033	Hammer Block
7000	Barrel Pin	7293	Rebound Slide Assembly
7098	Bolt Plunger	7037	Flat Head Plate Screw
7020	Bolt Plunger Spring	703801	Hammer Stud
7472	Center Pin for over 2" bbl	7039	Sear
7464	Center Pin Spring	7040	Hand Torsion Spring
7005	Extractor Rod for over 2" bbl	7041	Side Plate
7546	Extractor Spring	7046	Cylinder Stop
7517	Yoke	7051	Stock Screw Square Butt Bolt
7011	Hand Pin	7441	Bolt
7012	Locking Bolt for over 2" bbl	7053	Extractor Rod Collar
7014	Locking Bolt Spring	7055	Cylinder Stop Spring
7016	Mainspring	7056	Stock, Service, Left Side, Square Butt
7017	Plate Screw, Crowned	7057	Stock, Service, Right Side, Square Butt
7019	Hand Spring Pin	7124	Hammer Nose Bushing
7019	Hand Spring Torsion Pin	7129	Frame Lug
7019	Sear Pin	7513	Hammer Nose
7019	Stirrup Pin	7474	Cylinder with Extractor Pins & Gas Ring
7019	Trigger Lever Pin	7212	Frame Lug
7020	Sear Spring	7543	Locking Bolt Pin (heavy bbl)
7021	Stirrup	7262	Extractor Pin
7022	Stock Pin	7463	Extractor
702401	Thumbpiece	7217	Hand
7025	Thumbpiece Nut	7124	Hammer Nose Spring
7294	Trigger Assembly	7409	Barrel, 4" (Heavy)
7027	Trigger Lever	7541	Frame for heavy barrel only
7028	Rebound Slide Spring		
703001	Trigger Stud		
703101	Rebound Slide Stud		

The combination of the 3in barrel and round butt offers a good balance between concealment and performance.



The Model 65 offers a ramp-mounted front sight and a back sight groove integral with the frame.



The top-strap of the Model 65 is unusually clean, without adjustable sights, and allows a very rapid snag-free draw.



Recoil under full-power .357 Magnum loads is quite noticeable, yet the Model 65 is eminently controllable.





In rapid double-action strings, the Model 65 performed beautifully at 15 yards.



Name _____ Score _____
Date _____ Weapon _____

A typical double-action group achieved with the Model 65 from 15 yards.

Smith & Wesson

Model 66

Type: double-action revolver.
Maker: Smith & Wesson, Springfield, Massachusetts, USA.
Calibre: .357 Magnum.
Overall length: 190mm, 7.5in.
Barrel length: 63mm, 2.5in.
Weight, empty: 880gm, 31oz.
Cylinder capacity: 6.
Construction: stainless steel, adjustable sights.

When Smith & Wesson introduced the Model 19 'Combat Magnum' in 1955, it was soon labelled the 'peace officer's dream gun' owing to its combination of .357 Magnum power with the relatively light K-Frame. As the years have passed, the Model 19 and its stainless-steel counterpart – the Model 66 – have retained their popularity for duty use, though, during the last few years, their ability to withstand arduous service with full-power .357 loads has been questioned. Under normal conditions, however, the Models 19 and 66 offer an excellent compromise between power and weight. Although 4in-barrelled guns are by far the most common, I have chosen to evaluate the 2.5in barrel version favoured as a plain-clothes or undercover weapon.

The 'snub' 66 is still a good-sized gun, and is actually larger than most automatics with 4-5in barrels. It has very sleek lines, though, and is one of the most handsome of all combat revolvers. The combination of the quick-draw front sight with the stubby barrel and ejector shroud results in a formidable-looking weapon which clears leather reasonably well. Unfortunately, even the short-barrel Model 66 is too large to be used as a pocket revolver. Though its back sight has sharp edges that could snag on a lining (I normally have the blade edges rounded), the round-butted 'snub 66' conceals and draws well under business clothing.

The cylinder of the Model 66 is the normal S&W K-Frame magnum type, and thus lacks excessive wall thickness. It is safe enough with standard factory ammunition or equivalent handloads. The chambers on my test gun are counter-bored, though S&W has been discontinuing counter-boring on magnum revolvers. With the 2.5in barrel, the ejector does not have quite enough travel to fully extract spent cases so it is important to invert the gun to complete extraction.

The top of the barrel and the top strap have a matt non-reflecting finish, and combine with the ramp-mounted Baughmann quick-draw front and click-adjustable back sights to facilitate accurate shooting despite the minimal sight radius. The Model 66 is extremely good for fast

instinctive pointing, as the short barrel seems to balance the gun quite well.

The 2.5in-barrelled 66 has a smooth combat trigger and a semi-combat hammer, a good combination on a gun intended for rapid double-action fire at close range. The trigger pull, especially in double action, is quite good in my gun – typical of most stainless-steel S&W revolvers.

I liked the round butt, with its service-style stocks, though the chequering can be abrasive when full-power loads are fired. Currently, I have a set of Pachmayr neoprene grips on my revolver, owing to the number of full-power .357 Magnum loads I have been firing, but I have tested many comparable guns with factory stocks and found them all entirely adequate. The Pachmayrs are among the best substitute grips as they do not affect concealability adversely; I do not like oversize grips on a gun designed expressly for concealment.

The stainless steel variant is preferable, owing to its corrosion resistance, but the blued Model 19 is also available with a 2.5in barrel.

The exclusively double-action shooting tests were undertaken at 15 and 25 yards, the gun proving particularly accurate despite its short barrel. Loads included 125gn Federal, 140gn and 158gn CCI-Speer jacketed hollow-points, the lighter Speer bullet performing best. Group diameters at 15 yards were often as tight as 2-3in, opening to about 4in at 25 yards. Despite appreciable muzzle blast and flip, the 66 can be hauled back on target quite quickly for follow-up shots. Recoil is noticeable, but not intolerable. I fired a few strings of 12 rounds, necessitating a reload in the middle of a string. For some reason, I have always found the short-barrel Model 66 exceptionally suited to speedloaders, perhaps because of the small non-target grips. This session, using the Safariland Comp II loader, was no exception.

Like all short-barrel magnums, the 2.5in Model 66 should be avoided by inexperienced shooters and others who are likely to flinch from excessive muzzle blast. I like the 66 'snub' a great deal, and consider it a lot of fun on the range – though, perhaps, not as practical as many other concealment revolvers. The 4in-barrelled option can be concealed almost as easily and is a more effectual weapon. Many police officers who choose the 2.5in-barrelled Models 19 or 66 for off-duty purposes end up carrying them in an inaccessible ankle holster. For home-defence the Model 66 is certainly appropriate, though there are better choices. With the 4in or 6in barrels, the 66 is a nice outdoorsman's revolver that can double for home defence. The 4in-barrelled Models 19 and 66 are at their best, however, when carried openly in a service holster. For this purpose, they are among the best revolvers on the market. I like the looks of the 2.5in-barrelled gun, and the way it shoots, but for nine out of ten shooters the 4in barrel is more practical.

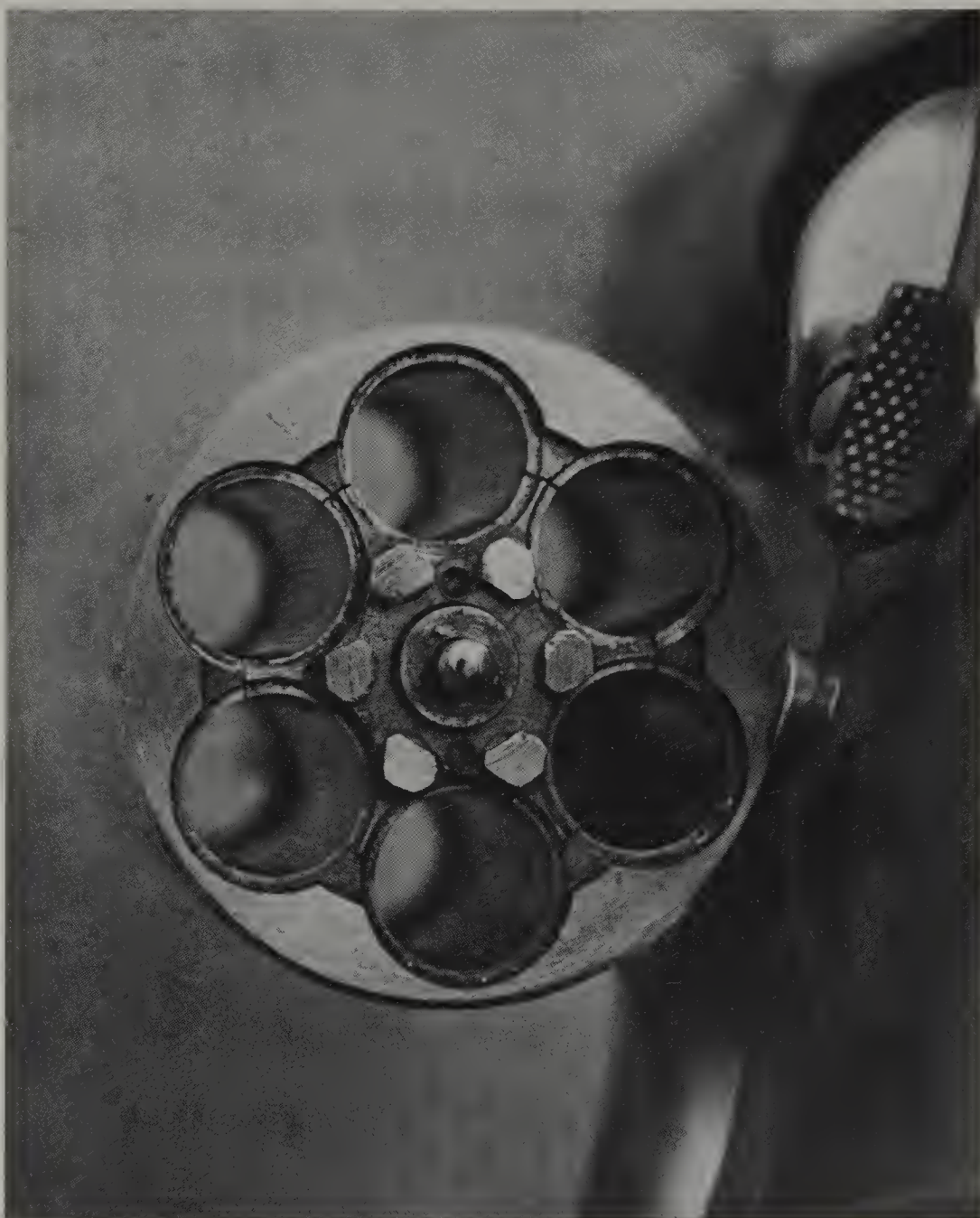
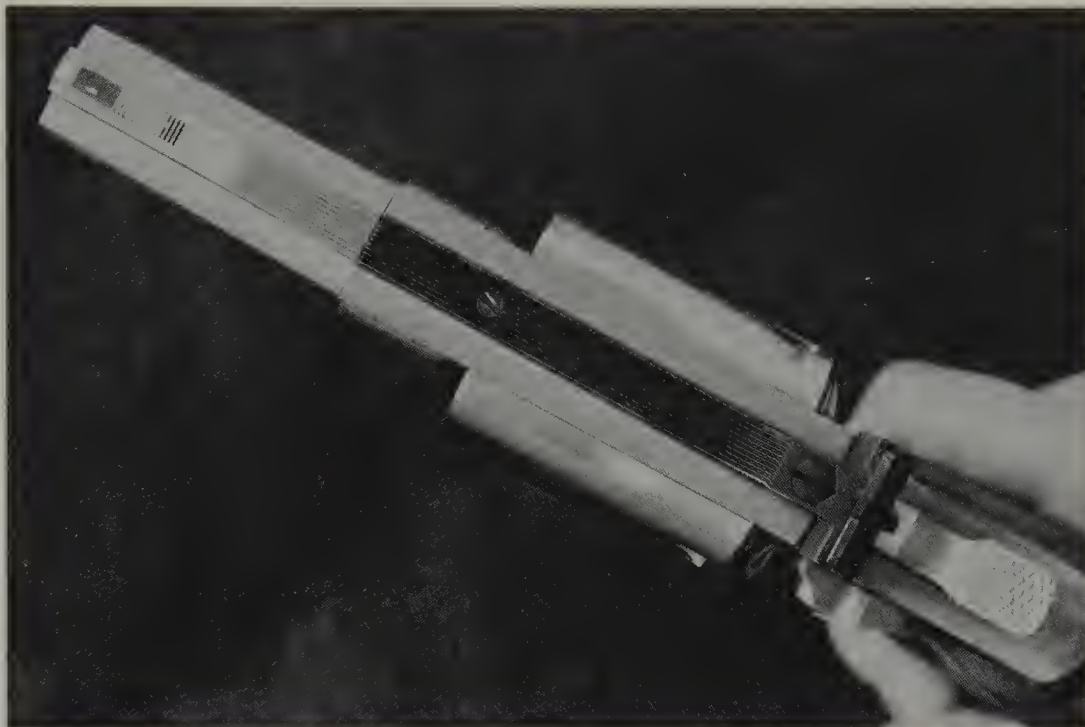


The short version of the stainless steel Model 66 'Combat Magnum' is a formidable-looking weapon.

Though the round butt and short barrel aid concealment, the adjustable sights on the Model 66 may snag clothing during the draw.



Note that the back sight and base-rib are blackened, helping rapid alignment of the sights.



The S&W Model 66 is built on the medium K-Frame; thus, its cylinder wall thickness is insufficient to handle ammunition developing in excess of 'factory' pressure and care should be taken not to strain the gun.



Though it shows substantial muzzle blast, muzzle flip and recoil with full-power loads, the Model 66 is comfortable to shoot once it has been mastered.



The 2½in-barrelled Model 66 is capable of very accurate shooting at any combat range, as this 15-yard group indicates.

Smith & Wesson 625-2

Type: double-action revolver.

Maker: Smith & Wesson Inc., Springfield, MA, USA.

Calibre: .45 acp, using half- or full-moon clips.

Overall length: 260.35mm, 10.25in.

Barrel length: 127mm, 5in.

Weight, empty: 1,306gm, 46oz.

Cylinder capacity: 6.

Construction: stainless steel with click adjustable rear sight and ramp front sight.

During the First World War the US Army found that trench warfare required a far higher percentage of troops to be armed with handguns than had previously been considered necessary, but there were not enough 1911 .45 automatics available to arm all the troops who needed handguns. As a result, both Colt and Smith & Wesson were given contracts to produce their large-frame revolvers chambered for the .45 automatic cartridge using half-moon clips, each of which held three rounds. Designated the 1917 Revolver, many of these weapons would be sold as surplus to civilians after the cessation of hostilities. Many of the owners of these revolvers found them very useful defensive weapons, the half-moon clip system allowing them to be reloaded very quickly. As a result of the system's popularity, Smith & Wesson continued to offer both a commercial service and a target version of their large-frame revolver chambered for the .45 acp cartridge using half-moon clips. A special cartridge, the .45 Auto Rim, was also developed for these revolvers so that they could be used without the half-moon clips should the owner so choose. I owned a 1917, which I often carried loaded with .45 Auto Rim rounds, while for rapid reloads I carried four half-moon clips of .45 acp cartridges.

One of the noticeable and useful features of the 625-2 is the heavy underbarrel lug.

As is often the case when a gun is discontinued for lack of sales, the Model 25-2 (also known as the 1955 Target Model) was dropped by Smith & Wesson a few years ago, the fixed-sight service version having met its demise some years earlier. Subsequently, used examples increased substantially in price. As a result of this demand, Smith & Wesson decided to introduce a new version of the 25-2, this one in stainless steel and carrying the heavy underbarrel lug. Initially, the only barrel length available was 5in, though a 3in version followed. Five-inch barrels are very popular with many knowledgeable shooters as they offer better sighting radius than the shorter and more standard 4in barrel, yet they ride on the hip more easily than a 6in revolver. Popular gun writer Skeeter Skelton was an especial fan of the 5in barrel too, and his advocacy convinced many new shooters to try the barrel length. Personally, the first combat revolver I carried on a regular basis, a Colt Official Police revolver which I purchased after graduating from the Police Academy, had a 5in barrel and it has been an excellent gun for more than a quarter of a century.

Other than the barrel lug and the pronounced gap between the face of the cylinder and the frame to allow for the .45 acp round with clips affixed, the only other obvious feature which differs from most S&W N-frame revolvers are the round butt Pachmayr grips. Although I like the inclusion of the round butt on this revolver, I find these grips particularly uncomfortable, primarily because they are too thin and cant the gun slightly sideways in my hand. My theory is that Smith & Wesson, anticipating sales in the future when the Space Shuttle has made space travel common, just designed the grips for an alien hand. Unfortunately, I know of no after-market grip manufacturers who offer a round-butt N-frame grip. My personal preference would be for plain, magna stocks accompanied by a grip adaptor.





Even with heavy Cor-Bon .45 acp loads, the 625-2 is an easy revolver to control in fast double-action fire, aided greatly by the heavy underbarrel lug.

Half-moon clips definitely make the 625-2 fast to reload. Full-moon clips reload even faster. Either is an advantage for combat usage.

The weight of the barrel lug is noticeable, but it actually aids in balancing the gun and holds it on target during rapid double-action sequences. The sights are blackened to cut glare but do not incorporate the white outline and red insert used on some S&W target-sighted revolvers. Perhaps because many of the intended purchasers for this revolver are competitive shooters, the trigger pull on my example is well above average. Double-action is smooth with little tendency to stack, while single-action pull is very smooth and crisp and, for an out-of-the-box gun, quite light.

The 625-2 is a joy to shoot, the heavy barrel lug keeping muzzle flip to a minimum even with heavy Cor-Bon .45 acp loadings. Accuracy was excellent, too, as I tested my gun with CCI 200-grain JHPs, Federal 230-grain FMC Match ammo, Federal 230 Hydra-Shok JHPs, Cor-Bon 200-grain JHPs, and Winchester 185-grain Silvertip HPs. All were good for 3-4-inch 50-foot groups firing double-action for all shots. Firing rapidly at multiple poppers, I really appreciated the barrel lug as it kept muzzle flip and recoil low enough to allow very quick repeat hits. I did, however, find, as with this same type of grip on my S&W 629 'Mountain Revolver', that the thinness at the rear of the grip actually focuses recoil on my hand. I did not have any of the full-moon clips available for testing so all my shooting was done with half-moon clips, but these allowed quick and sure extraction and reloading. Full-moon clips should be even more rapid and sure.

Overall I rate the 625-2 very highly. It is a quite effective big-bore belt gun, especially for use where a heavy bullet at a medium velocity is desirable, perhaps for urban law enforcement or home-defence. Were I a uniformed police officer limited to carrying a revolver on duty, my choice would probably be between the S&W 25-5 .45 Colt or the 625-2 .45 acp. Weighing heavily in favour of the 625-2 would be its stainless finish and its rapid reloading capability; with full-moon clips perhaps faster than speed-loaders. I could also see this as a very useful gun for home-defence because its big bore offers excellent intimidation effect, while the full-moon clips would allow fast loading



capability for those who prefer to keep a home gun unloaded. This is one of the best of the Smith & Wessons offered for combat within the last few years.

Smith & Wesson has grown more responsive to the needs of small groups of shooters during the last few years. One result of this was the Mountain Revolver, a 629 designed to be lighter and easier to carry. Using a much thinner barrel and being round butted, this variation would be the best combat choice because the savings in weight will allow it to be carried more readily. On the negative side, with the Mountain Revolver one will notice the recoil more with full-power .44 Magnum loads. This is at least partially due to the poorly designed neoprene grips which are too thin and focus recoil into the web of the hand.

Double-action 25-yard accuracy was quite acceptable with the 625-2.



The 625-2 is a handsome revolver, though the author dislikes the neoprene grips supplied on the gun, finding that they focus recoil into the palm rather than cushioning it.





The Smith & Wesson 629 'Mountain Revolver' offers a much more carryable version of the .44 Magnum with its round butt and lighter barrel.



Smith & Wesson

Model 629

Type: double-action revolver.
Maker: Smith & Wesson, Springfield, Massachusetts, USA.
Calibre: .44 Magnum.
Overall length: 238mm, 9.38in.
Barrel length: 102mm, 4.0in.
Weight, empty: 1,220gm, 43oz.
Cylinder capacity: 6.
Construction: stainless steel, adjustable sights.

The idea of the S&W .44 Magnum being suitable for combat use did not originate with Dirty Harry, but those Clint Eastwood films certainly popularized the N-Frame as a fighting handgun. Casting myth aside, the Models 29 and 629 present problems in combat. They are big and bulky; hard to handle for anyone not skilled with them; overly powerful for urban and most rural use; and relatively expensive to own and shoot. However, despite these drawbacks, I do consider the 29/629 to be the best of the .44 Magnum 'combat' revolvers, though, unlike Harry Callahan, I use one with a 4in barrel rather than 6.5! (6in barrels are standard on current guns.) I do think Eastwood has the right idea for anyone wanting to carry a 29 or 629 concealed; a shoulder holster is ideal. When carried openly, a broad belt and heavy holster help to distribute the gun weight.

With the 4in barrel, the 29/629 is bulky, but not so much so that it cannot be carried by someone who really needs its power. The big magnums are probably best left in the hands of rural police and park rangers, who have to deal with dangerous game in addition to criminals. Civilians living in rural areas may have a similar need for such a powerful gun, but the 29/629 is of little use in the hands of the average police officer or, worse still, an inexperienced civilian.

The Smith & Wesson Model 629 is a very impressive looking weapon, at least part of its mystique coming from its powerful appearance. The N-Frame is suitably sturdy, though its heavy-duty cylinder is not as massive as that of the Ruger Redhawk (q.v.). Wall thickness is still sufficient for any factory loads or reasonable handload. The chambers are counter-bored, as I prefer to see on magnum revolvers, but – unfortunately – S&W has been producing such guns without counter-boring during the last couple of years.

The 629's adjustable sights are what one expects from top-line S&W revolvers. The front ramp contains a red

insert, while the back sight is 'micro' click-adjustable and incorporates a white outline blade. Since the .44 Magnum is designed for long-range use, these sights are a real advantage and are compact enough that they don't really inhibit a rapid draw. The matt-finished top of the barrel and the top strap inhibit glare.

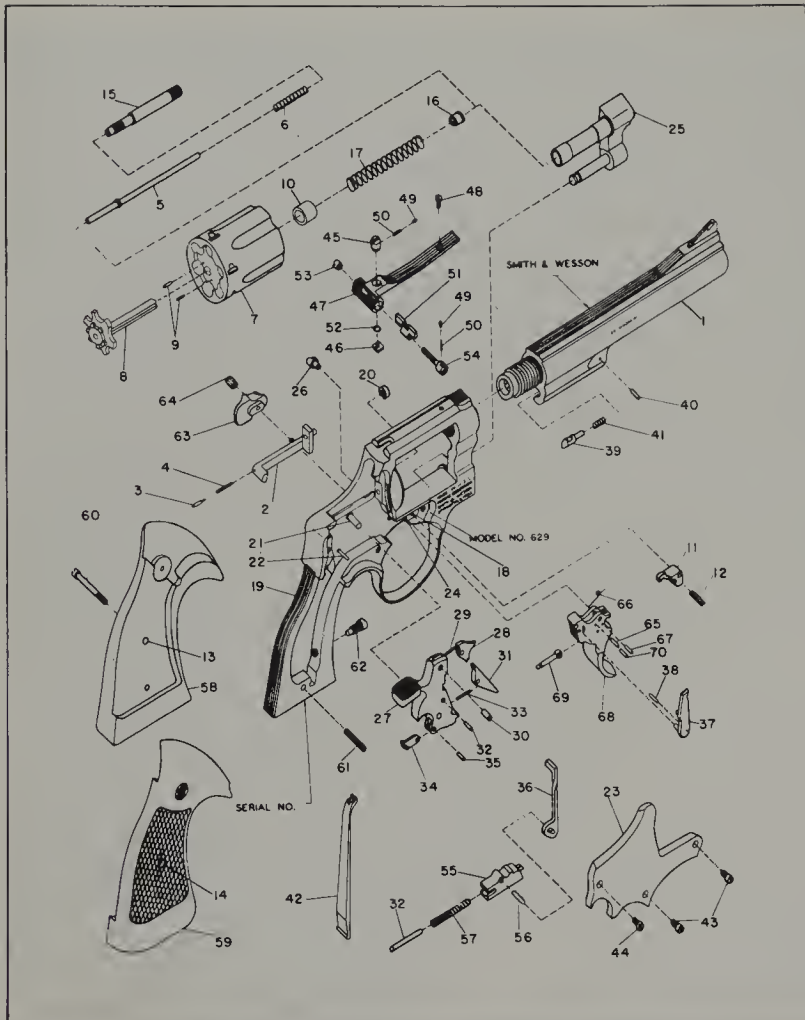
In common with most N-Frame Smith & Wessons, the 629 is supplied with Goncalo Alves target stocks, which I dislike. Not only do I find the grip uncomfortable, but also that it is almost impossible to position the gun correctly in the hand: the butt is simply too thick. My first task with these guns is always to fit new Pachmayr neoprene grips!

The 629 – the stainless version of the blued Model 29 – was one of the most eagerly awaited guns in firearms history. The combination of stainless steel and the .44 Magnum round makes the anticipation worthwhile, too, as the Model 629 is an outstanding amalgam of power and durability. Since most 629s will be carried outdoors, in an open belt holster, the stainless construction is a real bonus.

The single- and double-action trigger pulls are both normally quite good, and the test gun was no exception. The double-action pull was smooth and crisp, allowing jerk-free shooting. The 629 has the smooth combat trigger rather than the serrated pattern on the Model 29. Either seemed acceptable, and I have no definite preference. The S&W target-type hammer is of some use in long-range single-action shooting, but makes no difference in double action.

For range testing, I used 180gn Federal and 200gn CCI-Speer jacketed hollow-points, 240gn CCI-Speer jacketed soft-points and medium velocity 240gn Remington lead round-nose loads. I especially like the less powerful Remington load, since it is more comfortable to shoot and allows rapid recovery in fast double-action strings. The diameter of double-action groups at 25 yards was normally 4-5in with the Remington ammunition. The heavier loads were about as accurate, but were slower owing to greater recoil and consequent recovery problems. But I did not find the 629 impossible to tame. However, anyone planning to master the gun for combat must acclimatize to it gradually, by starting with light loads and working up to full power. A flinch can affect accuracy adversely, nullifying the power of the .44 Magnum.

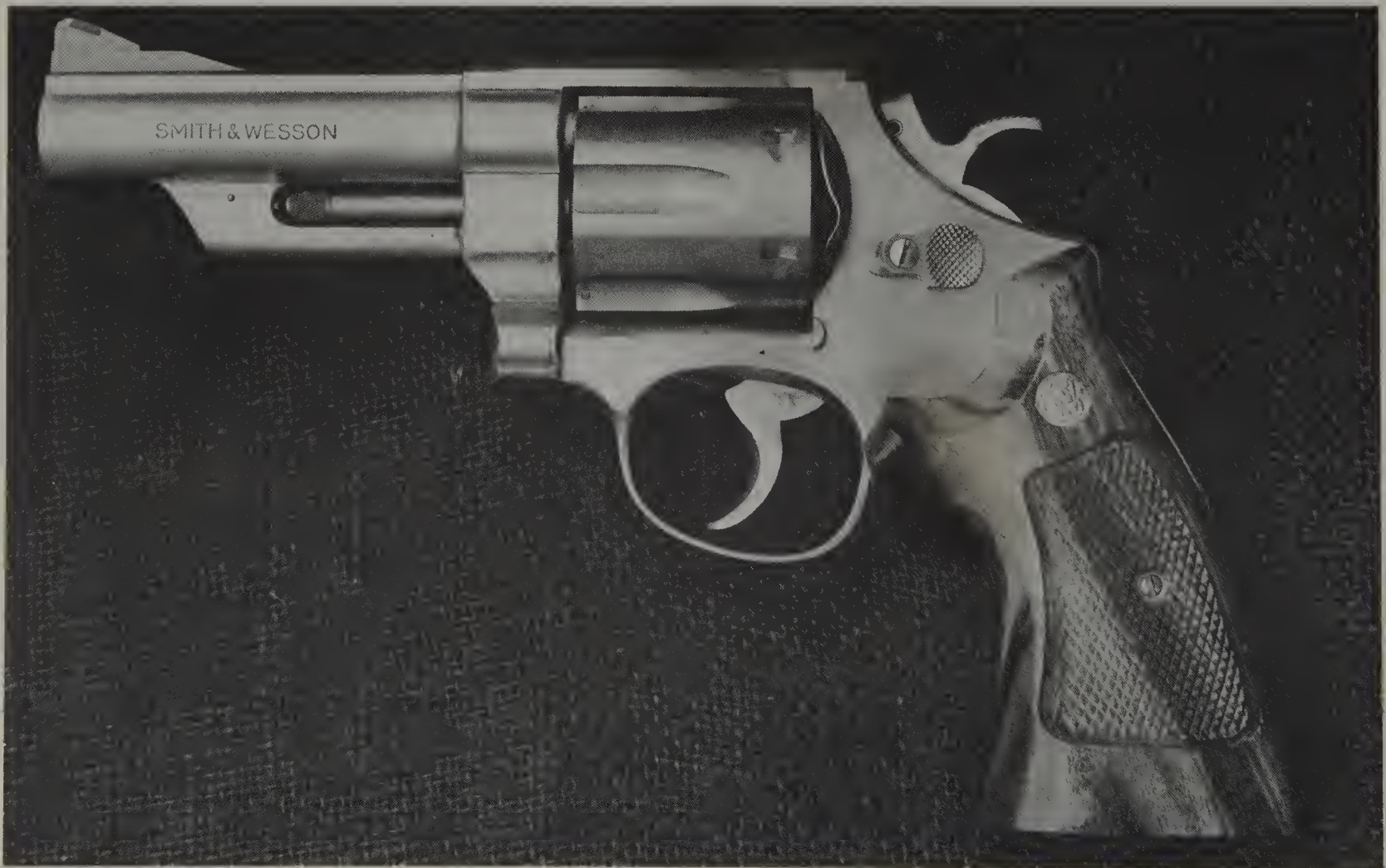
Although I do not recommend the Smith & Wesson Model 629 for most combat uses, the guns are ideal for anyone who has a valid need for the power or simply a liking for big bores. Under a heavy jacket, with a proper holster, the 29/629 series can even be concealed adequately. It is a lot of gun, but promises a mighty deterrent.



Key

1	Barrel	26	Frame Lug	51	Rear Sight Slide, W.O.
2	Bolt	27	Hammer	52	Rear Sight Spring Clip
3	Bolt Plunger	28	Hammer Nose	53	Rear Sight Windage Nut
4	Bolt Plunger Spring	29	Hammer Nose Spring	54	Rear Sight Windage Screw
5	Center Pin	30	Hammer Nose Rivet	51	Rear Sight Slide 8 3/8" W.O.
6	Center Pin Spring	31	Sear	55	Rebound Slide
7	Cylinder	32	Sear Pin	56	Rebound Slide Pin
8	Extractor	33	Sear Spring	57	Rebound Slide Spring
9	Extractor Pin	34	Stirrup	58	Stock, Left
10	Gas Ring	35	Stirrup Pin	59	Stock, Right
11	Cylinder Stop	36	Hammer Block	60	Stock Screw
12	Cylinder Stop Spring	37	Hand	61	Stock Pin
13	Escutcheon	38	Hand Pin	62	Strain Screw
14	Escutcheon Nut	39	Locking Bolt	63	Thumbpiece
15	Extractor Rod	40	Locking Bolt Pin	64	Thumbpiece Nut
16	Extractor Rod Collar	41	Locking Bolt Spring	65	Hand Spring Pin
17	Extractor Spring	42	Mainspring	66	Hand Torsion Spring
18	Cylinder Stop Stud	43	Plate Screw, Crowned	67	Hand Spring Torsion Pin
19	Frame	44	Plate Screw, Flat Head	68	Trigger
20	Hammer Nose Bushing	45	Rear Sight Elevation Nut	69	Trigger Lever
21	Hammer Stud	46	Rear Sight Elevation Stud	70	Trigger Lever Pin
22	Rebound Slide Stud	47	Rear Sight Leaf	68	Trigger
23	Sideplate	48	Rear Sight Leaf Screw	71	Trigger Stop Rod
24	Trigger Stud	49	Rear Sight Plunger		
25	Yoke	50	Rear Sight Plunger Spring		

The massive symmetry of the Model 629 is evident in this view. Its target grips have a distinctive speedloader cut-out.





Though the stainless steel finish on the Model 629 is somewhat reflective, it is well suited to a revolver which will spend most of its time in a belt holster.

A bad guy's view of the S&W 629 shows one of its greatest advantages. It's a great discourager.



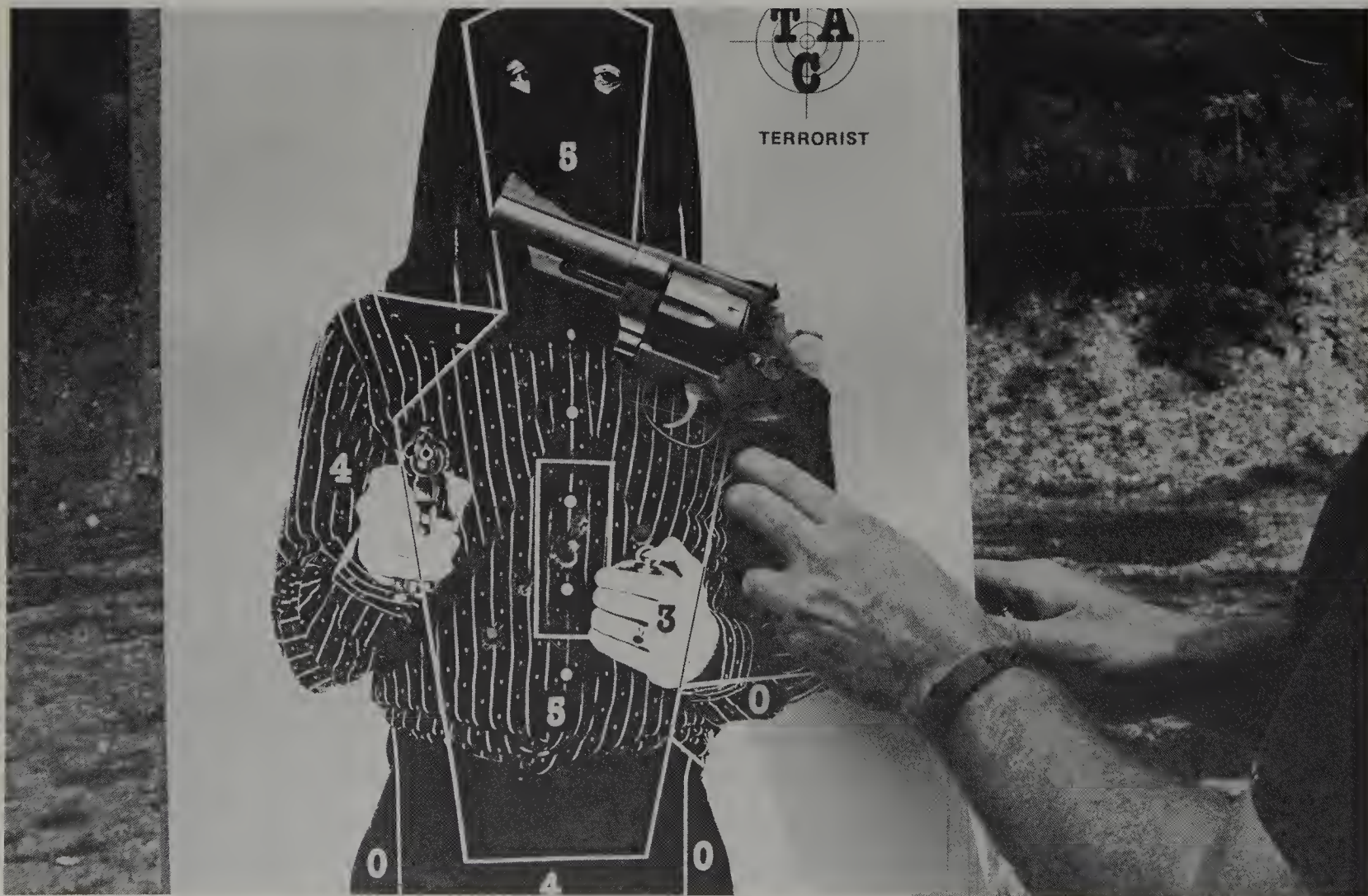


I believe that the best way to carry the 629 is concealed in a shoulder holster such as this, made in England by Horseshoe Leather.



With full-power -44 Magnum loads, there's little doubt that you are firing a very powerful gun.

The Smith & Wesson Model 629 not only packs great power, but is also very accurate. This group double-action, achieved from 15 yards, presents mute testimony.



Smith & Wesson Model 686

Type: double-action revolver.
Maker: Smith & Wesson, Springfield, Massachusetts, USA.
Calibre: .357 Magnum.
Overall length: 248mm, 9.75in.
Barrel length: 102mm, 4.0in.
Weight, empty: 1,190gm, 42oz.
Cylinder capacity: 6.
Construction: stainless steel, adjustable sights.

Although the medium K-Frame Smith & Wesson Combat Magnum has been extremely popular since its introduction in 1955, these .357 Magnums have received a steady diet of increasingly powerful loads as ammunition evolved and hotter-burning powders appeared. Although most shooters of K-Frame S&W magnums practised principally with .38 Special, keeping .357 Magnum loads for duty, there were some who believed — as I do — that one should always practice with the ‘duty’ round.

As the K-Frame magnums began to show erosion, particularly around the forcing cone, Smith & Wesson introduced the first L-Frame gun in 1981. This gave shooters a gun sturdy enough to fire full-power .357 Magnum loads regularly, yet was not as large as the N-Frame .357 Models 27 and 28. The L-Frame magnums incorporated many other features, the sum being an excellent duty weapon. The cylinder and the portion of the frame containing the cylinder and barrel are both much heavier than those on the K-Frame guns. The cylinder cut-out in the frame is almost as large as on S&W’s massive N-Frame revolvers. The front of the frame, enclosing the strengthened forcing cone, is especially sturdy, as is the top strap and the base of the frame. The grip and the trigger guard, however, remain those of the smaller K-Frame.

The barrel, with a massive under-lug/ejector-rod shroud based on the Colt Python pattern, is another noteworthy feature of the L-Frame .357 Smith & Wessons. The weight of this lug, together with the heavy barrel, helps dampen recoil and muzzle flip while allowing faster recovery during double-action shooting. The L-Frame barrel is shrink-fitted, thus eliminating the barrel pin found on other S&W revolvers and reducing labour costs. The top of the barrel and frame are longitudinally grooved and matt finished to reduce glare. The heavy-duty front sight contains a red insert, facilitating sighting, while the blackened fully-adjustable back sight is a standard S&W feature.

The cylinder — released in standard S&W manner — is more massive than those of the K-Frame guns, the additio-

nal wall thickness allowing a good margin of safety with all current .357 Magnum loads. Unlike most earlier S&W .357 Magnums, the cylinder is not counter-bored; with modern ammunition, however, there is very little chance of the head separating from the case. Smith & Wesson now seems to be eliminating counter-boring on all its magnum revolvers, a practice I consider unsatisfactory. Two very useful features of the Model 686 are its ‘semi-target’ hammer, wider than the service pattern but not as broad (or as cumbersome) as the target type, and the similar intermediate trigger. The 686’s trigger is also smooth, much to my liking.

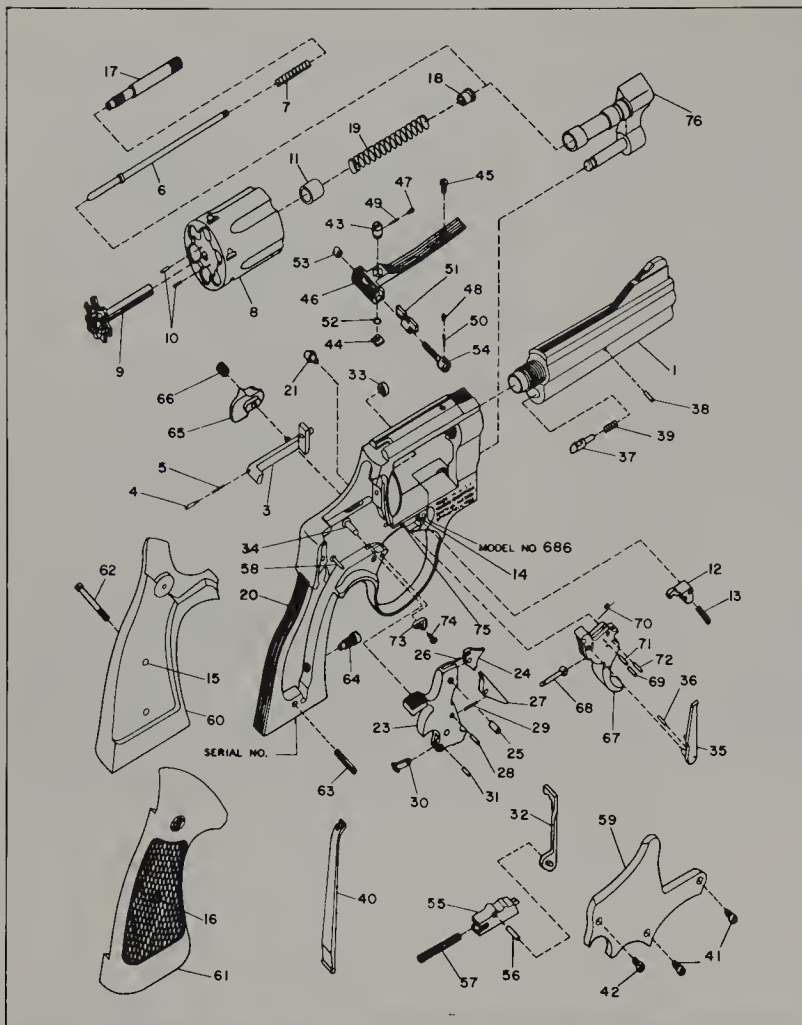
The back of the grip is grooved to prevent slipping in the hand. Although I find the K-Frame target stocks used on the L-Frame guns more comfortable than the N-Frame type, I still dislike them sufficiently to replace them with Pachmayr neoprene grips as soon as possible. The factory-fitted target stocks have sharp chequering common to most S&W types, and incorporate a speedloader cut-out to facilitate reloading. The chequering cuts into the shooter’s hand if full-power loads are used.

Although all shooting with my 686 has been double action, I have dry-fired it to test the single-action trigger pull (which is light and smooth). The double-action pull is relatively heavy, but it is crisp and shows no tendency for the pull to increase immediately before let-off. This is a boon to fast double-action shooting. Although the test gun did not prove to be as accurate as some of the rival .357s, its performance at 15 and 25 yards was still good. The diameter of double-action groups at 15 yards averaged 3-4in; and at 25 yards, it measured 3.5-5in. The Remington 125gn semi-jacketed hollow-point load performed especially well, giving groups of 2in or less at 15 yards.

The 686 handles exceptionally well, its massive barrel and under-lug making a notable difference in controllability. The gun points well and balances nicely in the hand, especially with the 4in barrel. Although the same basic gun is available in blued steel, as the Model 586 (or, with fixed sights, as the 581 and 681), I prefer the 686 for its corrosion-resistant properties.

The Model 686 is sufficiently hefty to be best suited to a suitable belt-holster, where the stainless steel will protect the exposed gun from the elements. Here, too, the adjustable sights will not interfere with a draw as they can from beneath a coat. One advantage of such sights is that — apart from aiding accuracy — they can be adjusted to a variety of different loads, the trajectories of which are rarely the same.

The Smith & Wesson Model 686 is at its best as a duty gun for uniformed police or for protecting the home. It is also ideal for rural areas, where a handgun is carried openly for defence or hunting. I would prefer a .44 Magnum were I to encounter dangerous game; otherwise, the 686 is a good compromise for the outdoorsman.



Key

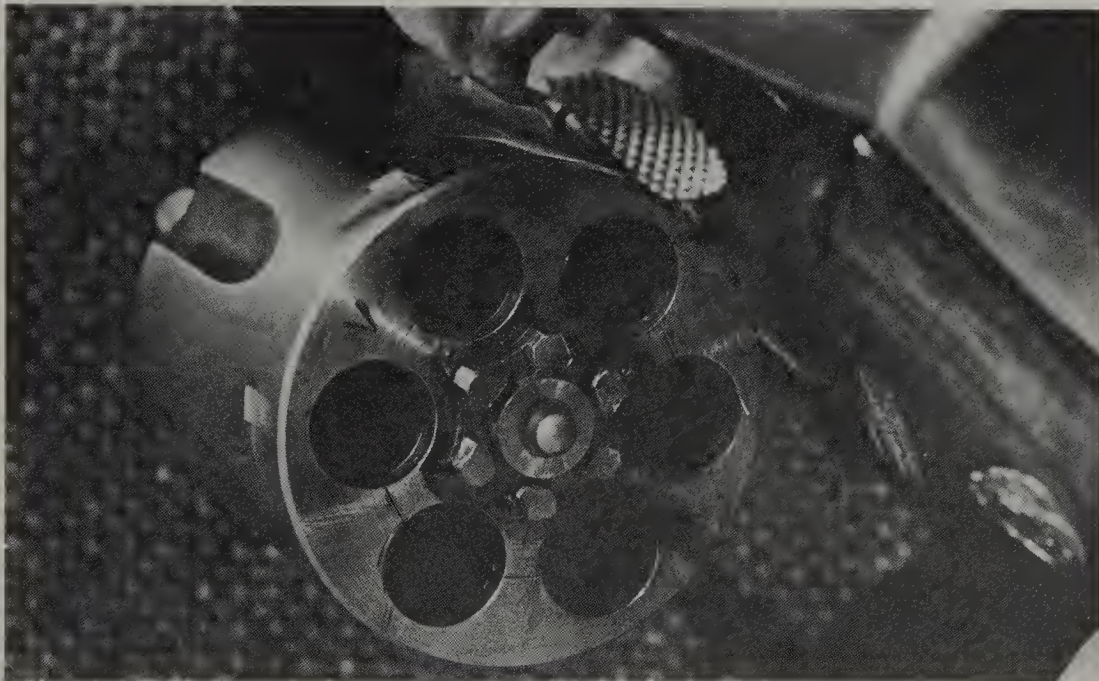
1	Barrel	27	Sear	52	R. S. Spring Clip
3	Bolt	28	Sear Pin	53	R. S. Windage Nut
4	Bolt Plunger	29	Sear Spring	54	R. S. Windage Screw
5	Bolt Plunger Spring	30	Stirrup	55	Rebound Slide
6	Center Pin	31	Stirrup Pin	56	Rebound Slide Pin
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9	Extractor	34	Hammer Stud	59	Side Plate
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18	Extractor Rod Collar	43	R. S. Elevation Nut	68	Trigger Lever
19	Extractor Spring	44	R. S. Elevation Stud	69	Trigger Lever Pin
20	Frame	45	R. S. Leaf Screw	70	Hand Torsion Spring
21	Frame Lug	46	R. S. Leaf	71	Hand Spring Pin
22	Front Sight Blade, Patridge,	47	R. S. Plunger	72	Hand Spring Torsion Pin
23	Hammer	48	R. S. Plunger	73	Trigger Stop
24	Hammer Nose	49	R. S. Plunger Spring	74	Trigger Stop Screw
25	Hammer Nose Rivet	50	R. S. Plunger Spring	75	Trigger Stud
26	Hammer Nose Spring	51	R. S. Slide	76	Yoke

The Model 686 has the cylinder and barrel of a heavy gun, yet retains the K-Frame and grip.

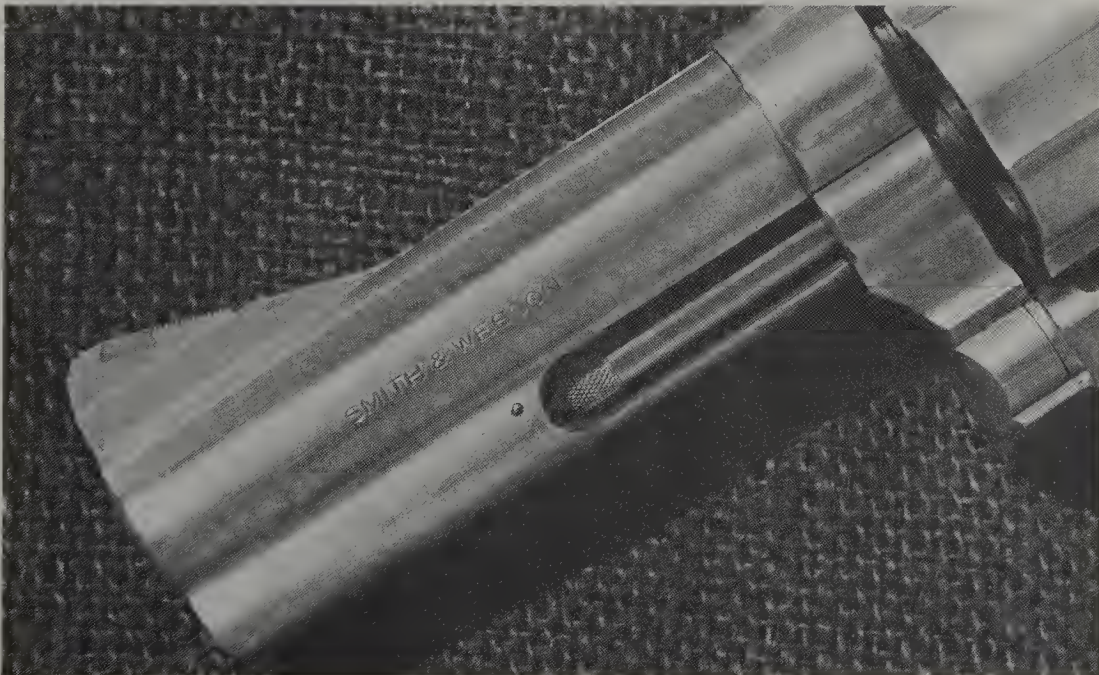




The 686 is very sturdily built, particularly at the juncture of the frame and barrel.



The cylinder of the S&W 686 is sturdier than those of the K-Frame magnums, such as the Model 19 or 66.



The most distinctive feature of the Smith & Wesson Model 686 is its massive barrel and underlug.

Massive barrel and heavyweight construction help to minimize recoil, even with full-power loads.



The accuracy of the Model 686; a 25 yard double-action group.

Star 'Firestar'

Type: single-action semi-automatic pistol.
Maker: Star Bonifacio Echeverria, Eibar, Spain.
Calibre: 9mm Parabellum, .40S&W.
Overall length: 165mm, 6.50in.
Barrel length: 86mm, 3.39in.
Weight, empty: 855gm, 1.88lb.
Magazine capacity: 7+1 with standard magazine, 7+1 with extended magazine (.40 S&W).
Construction: all-steel, fixed sights.

In 1975, when the reputation of Spanish handgun manufacturers had not yet reached the level enjoyed today, Star introduced, long before Detonics and Colt, the very first actual factory compact in 45ACP, the well-named 'Police Department', aiming, as shown by the choice of the calibre and the name of the pistol, at the American law enforcement market where it was to be sold as a very efficient and powerful back-up or deep undercover gun.

The compact 'PD' was – and still is – a very good gun, and much more than just a scaled-down 'Gouvernement' despite its external appearance; the use of a light alloy frame made it a hot, but not uncontrollable, handgun, extremely accurate for its size, much more concealable than a five-shot 38Spl revolver, with much much more power, greater capacity (6 + 1), and capable of much faster reloading (although it was not intended to be a primary weapon, and is thought to be more often carried without a spare magazine). The only drawback to the 'PD' was its superfluous adjustable backsight, badly designed and whose screws were too short to stay steadily fixed in the slide; a wise user would replace it with a good fixed combat sight. In the meantime, Star introduced another compact, the BKM/BKS/BM (difference only in finishes and construction, the first of the three having an alloy frame and the others being all-steel), also a 'first' but this time in 9mm Parabellum and, like the 'PD', being a single-action locked-breech design, with an 8 + 1 capacity.

But the Spanish guns were not appreciated in the USA at that time, except by collectors, and the little 'PD' was not a commercial success overseas; the BKM family, although excellent, was largely ignored because the 'back-up' concept was not widespread in Europe at the time. Both designs, however, showed the ability of the manufacturer to succeed in conceiving excellent compact guns.

So, after the introduction of its Model 28 and the adoption of its successor the Model 30 by Spanish armed forces and police, Star decided to go again into the compacts and proposed, in the middle of 1989, the 'Firestar', with a much more modern look than the 'PD' and BKM, being externally a scaled-down M30 with its typical frame over slide. But mechanically, the 'Firestar' borrows almost

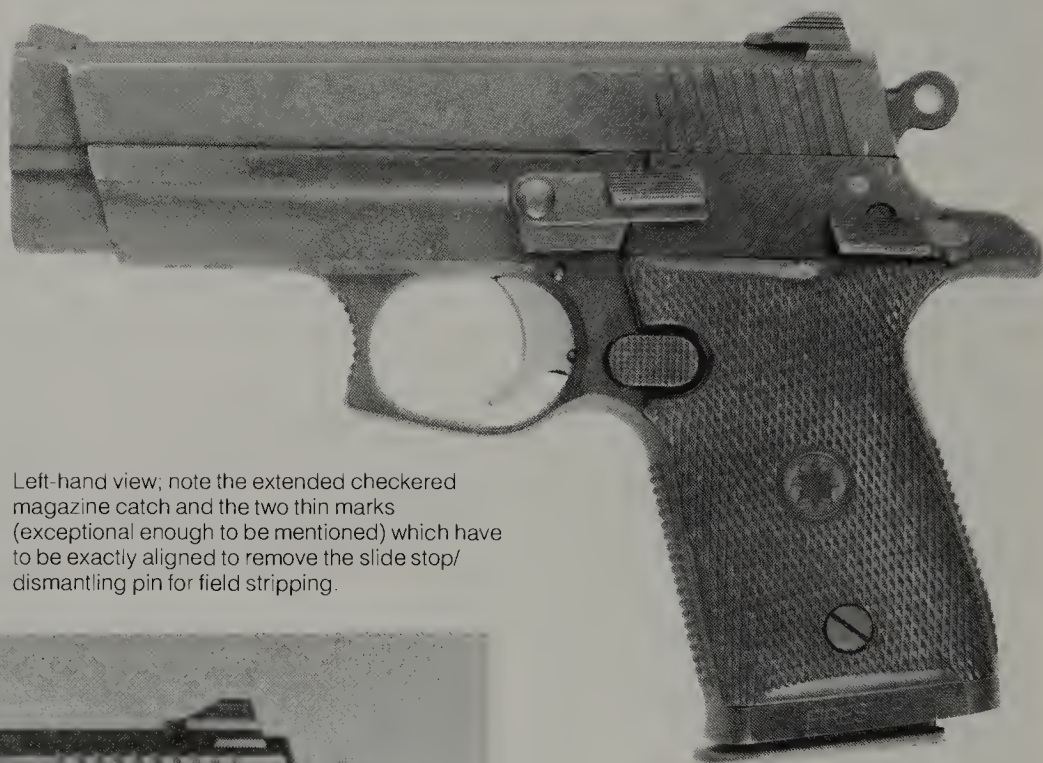
nothing from the M30; it is a single-action using the short recoil principle, a buttonhole unlocking system and a triple rib barrel/slide locking, the conical front end of the barrel avoiding the necessity of the removable bushing, a pivoting trigger, an ambidextrous manual safety placed far back on the frame, firing-pin and magazine safeties and an excellent extended magazine catch. The grip plates are made of steel reinforced rubber and give very good handling, especially when the extended magazine is used (the the price of some concealability), since the grip is a bit too short for large hands with the standard magazine, the little finger having to take its place under the butt, which is not a problem for any shooter using a two-handed stance. The less interesting features of the 'Firestar' are the firing-pin safety (whose plunger resistance adds a lot of weight to the trigger pull) and the magazine safety; the latter, totally unnecessary on a combat gun, is a long sheet of spring steel whose end prevents the trigger bar moving the sear when a magazine is not inserted. That safety is not only dangerous by itself (in case of emergency when reloading, it will not allow a chambered cartridge to be fired), but it slows considerably the extraction and insertion of the magazines, and his protruding marks them since the beginning; but, to quote Jeff Cooper's comment about the Hi-Power magazine safety, 'It's a good magazine safety; it's really easy to remove!' Another questionable device is the red square placed under the backsight's notch; it is only visible when the light is so good that this 'help' is redundant; and, if a white dot on the front sight can help those users with vision problems, it can only do so if it can be aligned with white dots on the backsight, otherwise, and especially here with a completely whitened front sight, it will emphasize the classical error of 'too much front sight' when aiming fast. Remember also that experts like Cooper and Taylor always argued for totally blackened sights. Those of the 'Firestar' are good enough to be used without dots of any colour.

On the sample 9mm gun, the trigger pull was very long and heavy (5kg, 11lb; remember it is a single-action); the 40 S&W was just slightly better, once again due principally to the firing-pin safety. In both calibres the little pistol is surprisingly accurate; the 9mm is relatively easy to master despite its short barrel, but the 40S&W is really 'living' in the hand of the shooter and a very good two-hands stance is to be used to avoid punishment, double taps being only practical at very short distances. The manual thumb safety, far back on the frame, is happily much more easy to pull 'off' than 'on'.

In sum, the 'Firestar' could be, with some improvements such as the removal of both magazine and firing-pin safeties, an excellent gun for officers working undercover or as a back-up, especially in 9mm for those using a primary gun in the same calibre. It's really compact, easy to carry concealed especially with the standard magazine, reasonably light for an all-steel gun, accurate and reliable.



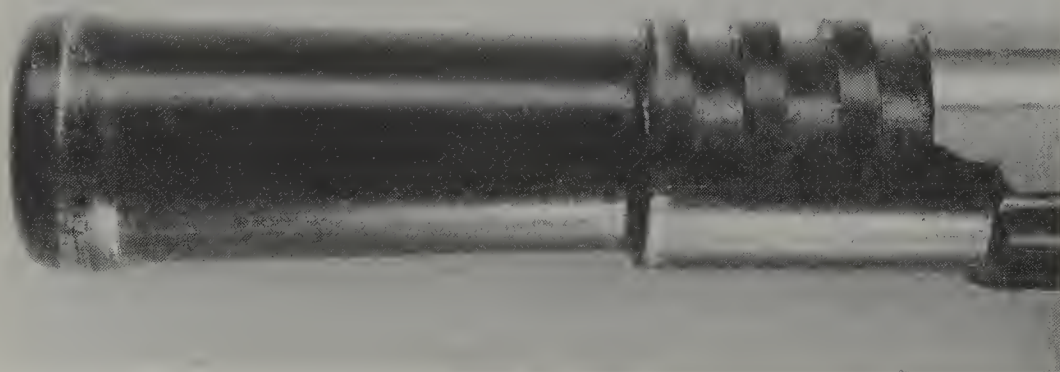
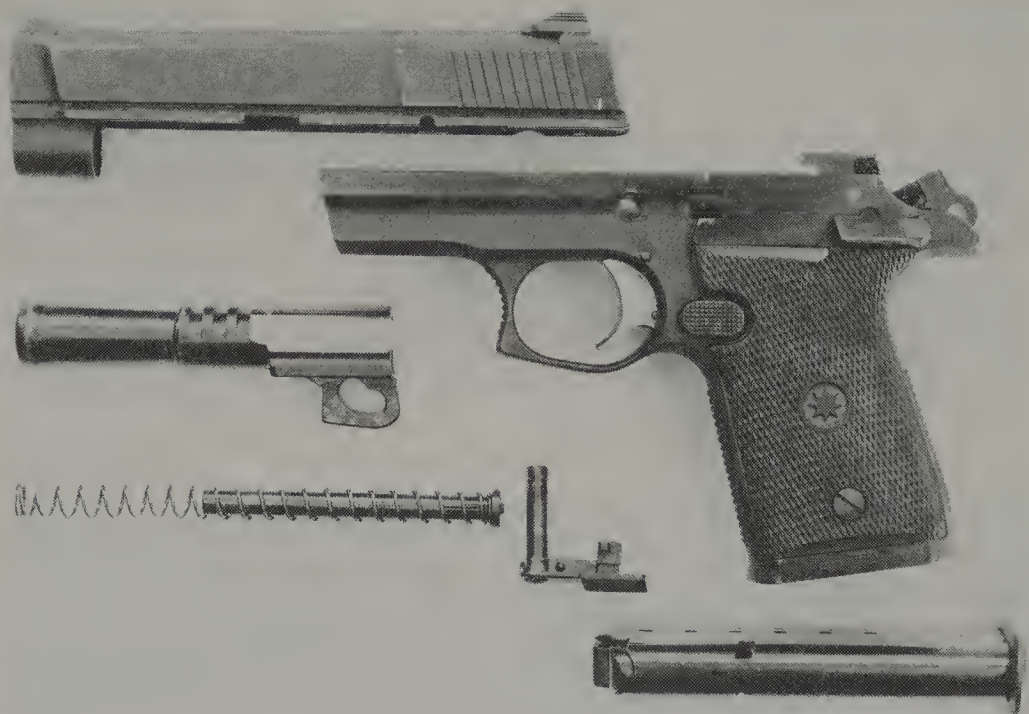
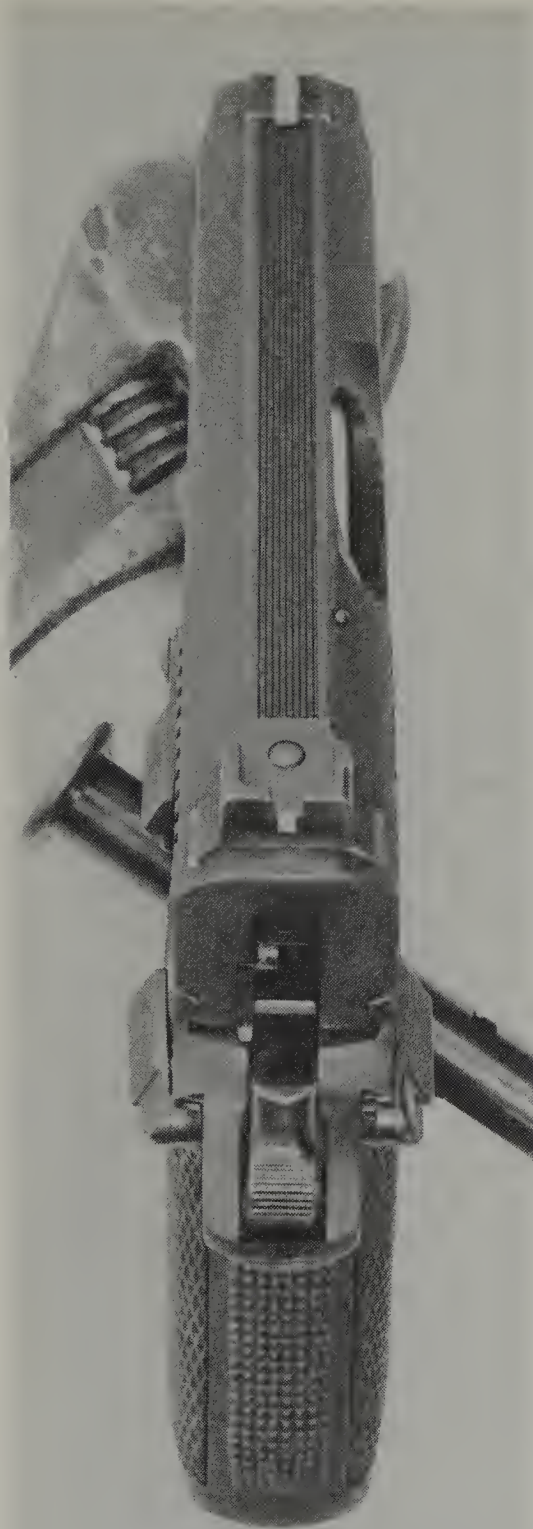
Right-hand view; externally, the 'Firestar' seems very much to be just a scaled-down M30; note the ambidextrous manual safety.



Left-hand view; note the extended checkered magazine catch and the two thin marks (exceptional enough to be mentioned) which have to be exactly aligned to remove the slide stop/dismantling pin for field stripping.



With the extended magazine, the capacity is augmented by one shot and the gun is easier to manage if you have large hands, but the concealability is less and the look of the gun is not so appealing.

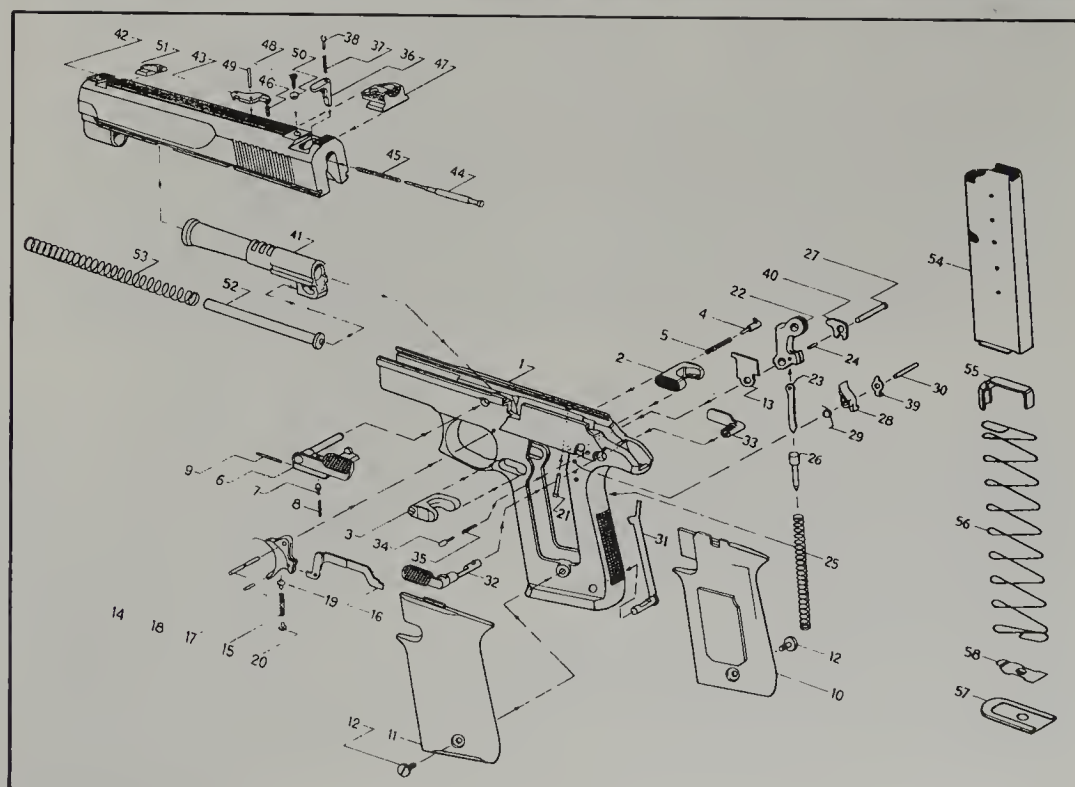


Above: View of the completely whitened front sight and the red square on the back sight, both totally superfluous; on the other hand, the grooved upper strap of the slide is really efficient against reflection.

Top right: Field stripped, the 'Firestar' shows its conical barrel with the three upper locking ribs and the buttonhole unlocking system under the chamber; note also the long spring guide and the square cut in the frame for field stripping, typical of frame-over-slide pistols.

Centre right: Close-up of the barrel; the conical end gives an excellent locking in the slide's front without a removable bushing.

Right: Exploded view from the owner's manual; the magazine safety (part No. 31) is, happily, very easy to remove.



Star 30M

Type: double-action semi-automatic pistol.
Maker: Star Bonifacio Echeverria, Eibar, Spain.
Calibre: 9mm Parabellum.
Overall length: 205mm, 8.07in.
Barrel length: 110mm, 4.33in.
Weight, empty: 1140gm, 40.24oz.
Magazine capacity: 15+1.
Construction: all-steel, semi-adjustable sights.
 Variations include 30MK (light alloy frame, weight 900gm/31.5oz), 30P (all-steel compact, 193mm/7.52in, 1,000gm/35oz), and 30PK (light alloy frame compact, 860gm/30.1oz), all having the same capacity.

The Star 28M was the first Spanish big bore double-action large-capacity pistol, introduced at the beginning of the 1980s to meet the standards initiated by the US JSSAP which looked set to be adopted as a general rule by more and more armed forces and police departments around the world.

Extensively tested under very rough conditions by the Spanish State Security and armed forces, the 28M failed in some respects (principally feeding, extraction and ejection failures, and breaking of the extractor and trigger spring). The pistol was therefore modified and became the 30M, adopted by the armed forces and the Police (some units use the PK Model). When it first came on the market the 30M, which borrowed some of its principles from the SIG P210 (removable back part of the mechanism including hammer and spring; frame over slide), was nevertheless something new at the time, not so many double-action with great capacity pistols being then available in Europe. One of the top weights of its category (remember you have to add the weight of 16 cartridges to the 1140gm/40oz plus!), the 30M

was one of the initiators of the squared external look, so commonly found on recent designs.

Unlike the CZ75, the first European design in double-action with a large-capacity magazine, the Star 30M cannot be carried in 'condition one', although neither has a decocking lever, but only a manual safety: if the CZ manual safety, which is on the frame as usual, locks both slide and hammer, the Star safety, ambidextrous and placed on the slide, has only one function, to retract the firing pin when 'on' and doesn't lock the hammer or the slide. And, unfortunately, the lever, which has to be pulled up to free the firing pin and allow percussion, is anything but fast to move (it's almost impossible with one hand only), due to its angle when down, and it would be much wiser to carry the gun with the hammer decocked to fire the first shot in double-action. But, as on the CZ75, the only way to decock the hammer is to pull the trigger; nevertheless, that manipulation is safer on the Star since it can be done with the safety 'on', avoiding accidental discharge, but no (well) trained combat shooter will like it.

One of the interesting features of the pistol is the simplicity of its mechanism, entirely contained in the removable lockwork except for the trigger itself and its spring, and the trigger bar which is a 'floating' stirrup, acting in the meantime as magazine and locking safety. The number of safeties is another characteristic of the Star 30M; there are no less than five: chambered cartridge indicator (a red dot on the extractor, visible only when a cartridge is chambered), magazine safety, locking safety (preventing any percussion as long as the gun is not completely locked), firing-pin safety, half-cock notch.

Field stripping is puzzling, surprisingly for a military gun: remove the magazine as usual, move the slide back to get the two marks (on the left of the slide and frame)



Left-hand view: the borrowing of the frame-over-slide principle from the SIG P210 is evident, the lever on the slide has no decocking role.

Opposite page:

Top left: The removable lockwork, with the hammer and its spring, the sear, the ejector, and the slide (locking) safety (1).

Top right: To remove the lockwork, the slide stop axle's end is first used to depress the plunger at the bottom of the backstrap.

Centre right: The frame, showing (1) the mark to be aligned with its corresponding mark on the slide for field stripping and (2) the square cut allowing the removal of the slide stop pin; such a cut is necessary because of the 'frame-over-slide' principle.

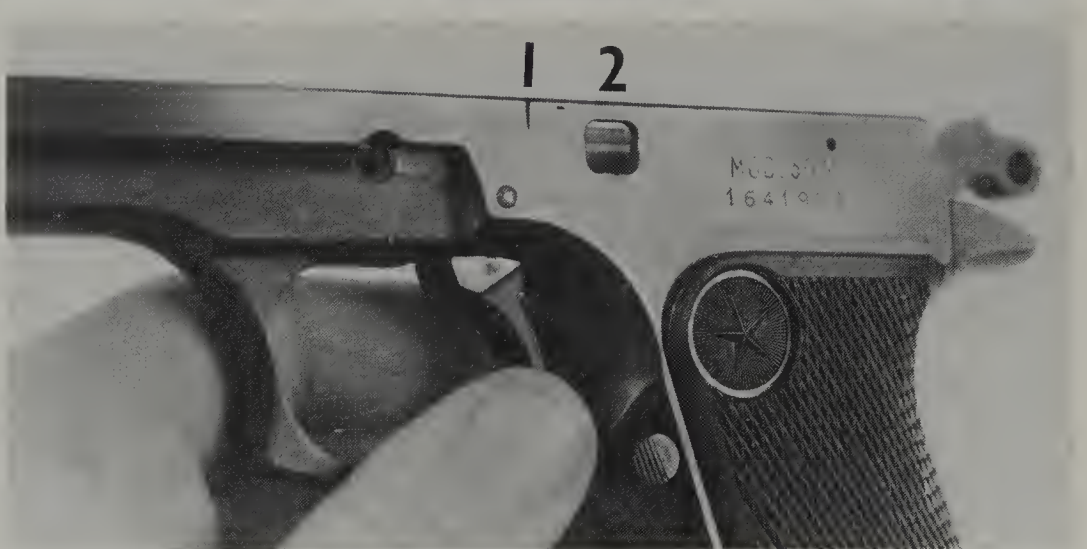
Left: When 'on', the safety simply retracts the firing pin, preventing any percussion; the hammer is not blocked or decocked, and the only way to decock it is to pull the trigger.

Far left: The way the barrel and the spring, captured on its long guide, are associated (the guide passes between the two sides of the buttonhole underlug) doesn't make reassembly of the pistol easy.

aligned, press on the slide stop's end until it is partially extracted, let the slide come back to unload the spring and allow the slide stop to be fully extracted from the frame, remove the slide from the frame and the spring assembly and barrel from the slide; then, use the end of the slide stop's axle to depress the plunger at the bottom of the grip's backstrap and, gripping the hammer, pull the lockwork up out of the frame, which will free the grip plates, held into the grip frame by the lockwork itself. This stripping is not as easy as is described in the owner's manual, and drawings in the manual show that the use of a screwdriver will often be necessary. Replacing the lockwork into the frame is no easier. The trigger pull of the sample gun tested, long and

heavy (6.6kg/14.52lb), was not very good, but the single-action was excellent (short and crisp, 2.5kg/5.5lb). The front sight on the sample had a longitudinal red thin line and the backsight two large white dots, both devices perturbing the shooter more than helping him and, consequently, the aiming was not as fast as required on a combat pistol. Blackening both sights would be the best solution!

Summarily, the Star 30M is a good gun but does not reach the standards established since their introduction by the best pistols of the same category, like the SIG-P226 or the Glock.



Taurus Model 85

Type: double-action only revolver.
Maker: Taurus S.A., Porto Alegre, Brazil.
Calibre: .38 Special.
Overall length: 171.5mm, 6.75in.
Barrel length: 51mm, 2in.
Weight, empty: 616.6gm, 21.75oz.
Cylinder capacity: 5.
Construction: stainless steel, fixed sights, de-horned hammer.

The Model 85 offers a less expensive compact alternative to the Smith & Wesson J-frame series of revolvers. In many ways it fills the niche Charter Arms revolvers traditionally filled. The model I chose to test – the 85CH – offers a couple of particularly appealing features: it is specifically designed to handle +P .38 Special loadings and it incorporates a bobbed hammer and a double-action only trigger mechanism. The bobbed hammer, of course, makes this a much more effective pocket revolver, though the gun's weight detracts from its pocketability. The double-action only mechanism is an added safety feature since the weapon cannot be cocked with the thumb and, therefore, the trigger must be pulled through the longer double-action pull to fire a round. Many authorities in the USA that deal with the legal ramifications of using deadly force recommend double-action only weapons because during liability proceedings attorneys have tried to sue based on the fact that their client – normally a criminal – was shot by accident using a weapon with the hammer cocked, thus necessitating only a light trigger pull. Since self-defence is a clear-cut reason for using deadly force in the USA, ironically such arguments stand a better chance of success than arguing that a police officer or home owner shot a felon on purpose. On the other hand, a close-quarters weapon such as this .38 Special snub should be used in double-action mode in any case.

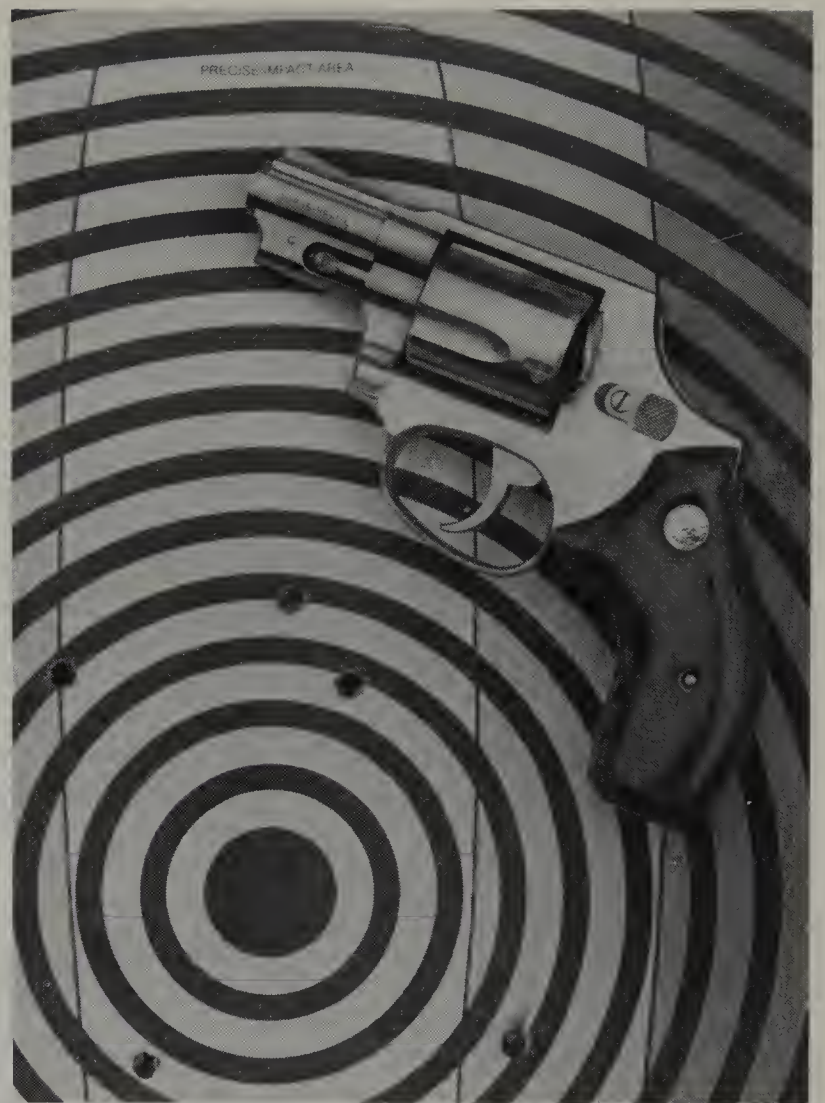
The weight of the M-85 CH has already been mentioned. Some of the extra ounces come from the stylish and efficient under barrel lug which protects the ejector rod and the relatively heavy barrel which rides above it. Combined with the five-shot cylinder with offset bolt cuts, the barrel adds sturdiness for the heavier loads the M-85 is considered capable of handling on a regular basis. A point by the way in regard to Taurus pistols and reliability: this company gives a lifetime warranty to their guns. The care of fitting on the M-85 and other Taurus guns, as well as the blackening on the front of the cylinder indicating that my M-85 was test-fired, are indicative that they take quality control seriously.

The M-85's sights are a ramp front and square notch rear with the top of the frame matte to prevent glare. As snub revolvers go these sights are about average. Since most who use this type of revolver will not be taking shots past 50 feet, the sights are certainly acceptable since, personally, at least,

I would choose them over sights that would interfere with a rapid draw from a pocket. The smooth hardwood stocks are a little oversized which allows for easier shooting but interferes with concealment. My choice with small-frame snub revolvers is always for the most compact grips I can get so that the weapon will conceal well. Others, however, find that recoil with the compact stocks is too much. I will admit that as such compact yet hand-filling stocks go those on the Taurus are pretty good. The trigger is smooth and wide enough to allow ease of use, while the cylinder latch is a duplicate of the Smith & Wesson style.

The M-85 performed well in its shooting tests. I tested it using Federal 158-grain +P Semi-wadcutters and CCI Blazer 125-grain +P Jacketed Hollow Points. The best groups were obtained with the Federal loads as firing double-action I put five rounds into about 4 inches at 50 feet. I should note that during this test it was very hot and humid and my glasses kept steaming up, a fact that may have hindered accuracy. Since I periodically shoot without my glasses to allow for the possibility of them having been lost when I might need to use my handgun, at one point I took them off and fired one paper group – which was actually my best group with the CCI loading – and another cylinder full at the pepper poppers. Anyone who wears glasses might find it worthwhile to practise occasionally





Above: The M-85CH's de-horned trigger is designed not to snag on a pocket during the draw.

Above right: This double-action 50-foot group from the M-85 with CCI Blazer 125-grain JHPs, though not spectacular is certainly good combat accuracy.



Left: The Taurus M-85 (top) is meant to compete with S&W revolvers such as the 642 (bottom).

Although the Taurus does well on size, the alloy frame of the S&W makes it about one-third lighter.

Right: The M-85CH is heavy enough that muzzle flip and recoil are held down, even with +P loads.

without them to that you know you can score hits at normal combat ranges without them should the need arise. For safety, clear safety glasses can be substituted for prescription glasses to accomplish the same training goal.

I like the M-85's sights quite well, finding them entirely usable and quick to acquire when bringing the revolver into firing position. The double-action trigger pull was medium to heavy but it was crisp and should improve as the parts wear in. Personally, it seems to me that after about 500–1,000 rounds stainless guns often show a marked improvement in trigger pull from wearing in. As is normal

with 2-inch barrelled .38 Special snubs, the ejector rod would not fully kick out empty cases; however, one learns to let the weight of the butt rotate the revolver so that gravity helps ejection. From my experiments it appears that S&W J-frame speedloaders work quite well on the M-85.

Overall, I rate the M-85 as very good value. It shows good quality in production and reliability and acceptable combat accuracy in use. I would like to see a version at about two-thirds the weight to aid in pocket carry. On the other hand, those who use hotter .38 Special loads in their snubs will like the added weight and sturdiness of the M-85.



The M-85 offers a sleek and stylish profile. Note the oversized, smooth grips.

Taurus PT-100 AFS

Type: double or single action auto.
Maker: Taurus S.A., Porto Alegre, Brazil.
Calibre: .40 S&W.
Overall length: 215.9mm, 8.5in.
Barrel length: 127mm, 5in.
Weight, empty: 992.25gm, 35oz.
Magazine capacity: 11+1.
Construction: stainless steel, fixed sights.

Some years ago the Italian firm of Beretta set up a plant in Brazil to manufacture automatic pistols. That the influence of Beretta is still present with Taurus is nowhere more apparent than with the PT series of automatics which are virtual copies of the Beretta line. The model I chose for testing, the PT-100 AFS, is a stainless steel copy of the Beretta 92 in calibre .40 S&W. This calibre, I should note, has made large inroads into the American police and self-defence market in just a couple of years because it offers a compromise between magazine capacity and bullet weight. In simple terms, it's the cartridge for those who traditionally like 9mm pistols but want a heavier, harder-hitting bullet.

The PT-100 is a very well-finished weapon showing a high degree of polish with no obvious tool marks. The grips are of very handsome Brazilian wood and offset the polished stainless steel nicely. The rear sight is blued with white dot inserts, while the front post has a red dot insert. Together with the matte finish to the top of the slide, the sights allow ease of target acquisition.

One obvious difference from the Beretta 92 is in the safety. While the Beretta uses a slide-mounted ambidextrous hammer drop safety, the Taurus uses a frame-mounted ambidextrous safety which can function either as a thumb safety for cocked and locked carry or as a hammer drop safety for double-action carry. This system has a couple of combat advantages. The PT-100 can be carried in normal double-action mode, then should it be necessary to fire shots, the thumb safety can be flicked on while carrying out a recce to see if additional rounds will be needed. There is also a training advantage with Taurus in that those not too familiar with handguns can be trained on a Taurus so that they will be familiar with both cocked and locked carry and double-action mode.

The one major disadvantage of the PT-100 is its size. This is a big auto pistol, one which is really designed for overt carry in a belt holster. For any one wanting more compactness, the Firestar, Glock 19/23, SIG P-228/229, or H&K P7 all offer a substantial reduction in bulk. The wood grips on the Taurus, though handsome, also add a lot of bulk and make it a difficult gun to grip effectively even for someone with medium to large hands. Ridges on the front and rear of the grip portion of the frame help prevent the

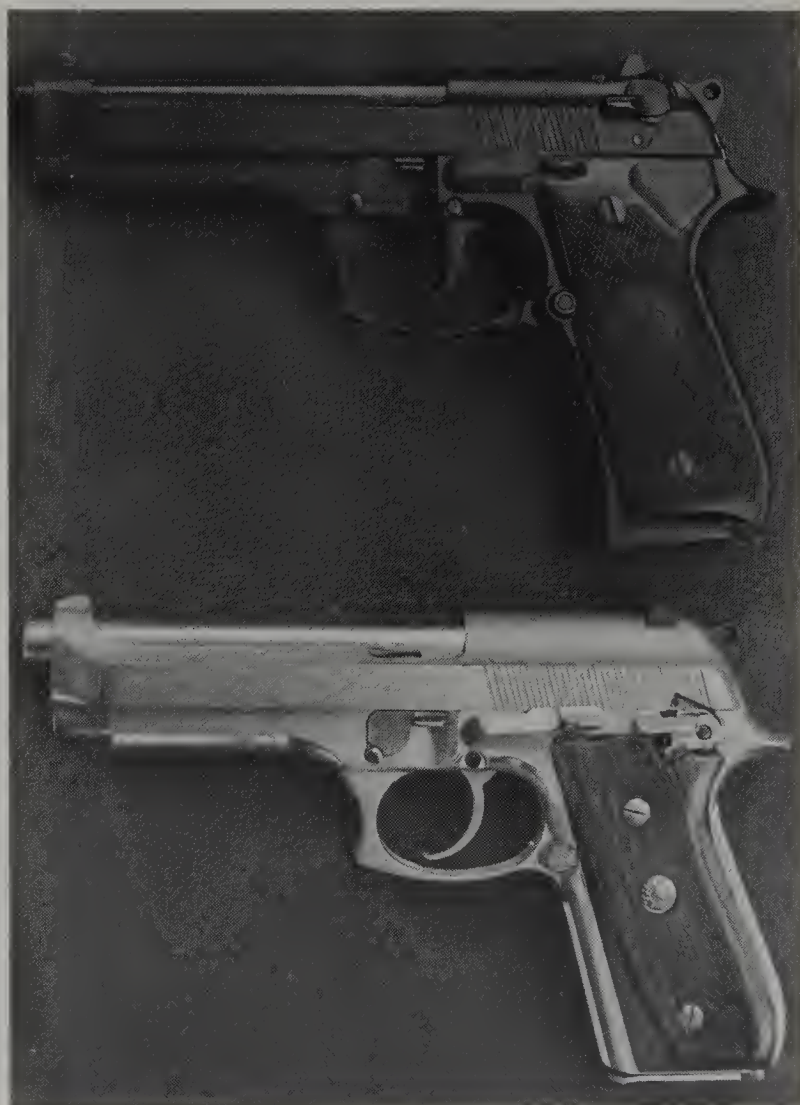
gun sliding around in the hand, but it is still difficult to maintain a proper hold because of its size.

The Taurus's magazine holds eleven rounds of .40 S&W ammo, giving a capacity of twelve rounds with one round in the chamber. This is two rounds fewer than the Glock 23, a far smaller gun. I should also note that the PT-100 comes with only one magazine thus necessitating the buyer to purchase spares on the aftermarket. There is a lanyard ring at the base of the grip which could during a rapid magazine change interfere with slamming a magazine home. One needs to be aware of this possibility, though I don't see it as a major problem.

The trigger is smooth and wide enough to allow ease of manipulation. Double-action pull is quite heavy and has a tendency to stack towards letoff. Single-action pull is acceptable, though also a bit heavy and with a bit of creep.

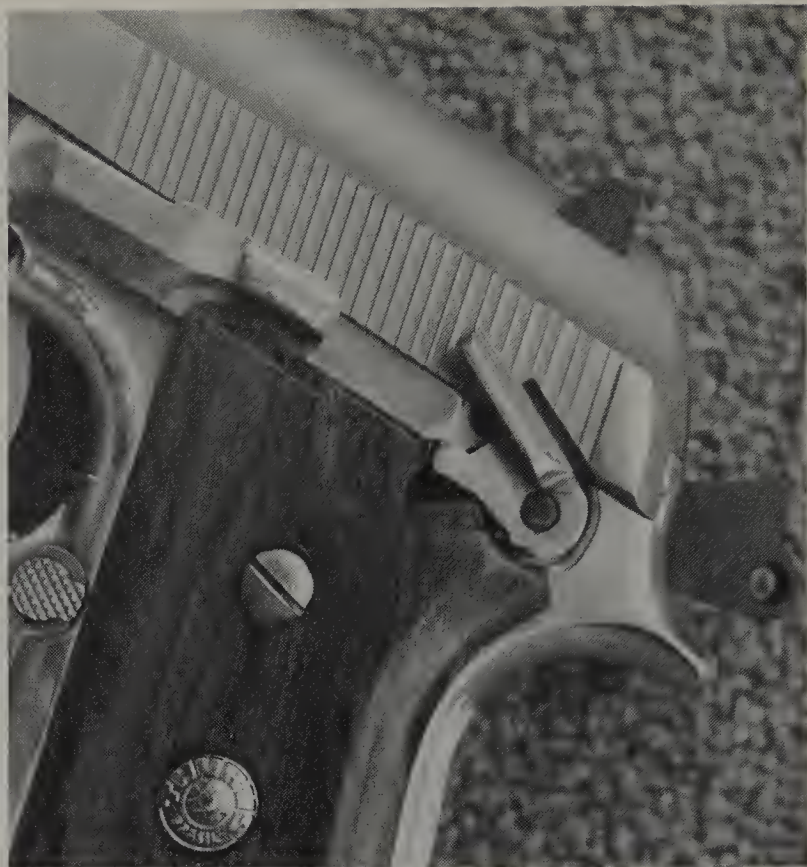
For testing the PT-100, I used Federal's excellent 180-grain Hydra-Shoks, Winchester's 155-grain Full Metal Jacketed Match, and Cor-Bon's 150-grain JHP loads. Firing 50 rounds of each loading, I found that the PT-100 handled everything reliably right out of the box. All loads were accurate, though the pistol consistently shot to the right with all loadings. The Winchester load performed the best

The design debt the PT-100 owes to the Beretta 92 is apparent in this picture.



with the Hydra-Shok loads a close second. Although I didn't chronograph them it was obvious the Cor Bon loadings were the hottest. Firing the first round double-action and subsequent rounds single-action at 50 feet, my best group ran a little over 4 inches for eleven rounds. I don't find the .40 S&W a heavy recoiling round and it certainly wasn't in the big Taurus. The gun also handled well for fast-reaction drills against pepper poppers set up at 10, 25, and 35 feet. The combination of enough weight and good sights allowed me to double tap each pepper popper and move on to the next one very quickly. The PT-100 performed very well in the shooting tests. Were I going to carry the gun on the street, I'd, of course, drift the sight to correct the tendency to shoot to the right.

I consider the PT-100 series of autos excellent value, especially when one bears in mind Taurus's lifetime warranty. However, in purchasing this auto, one must remember that it is a good belt gun to be carried openly, a good gun to carry in a vehicle, aircraft, or boat, or a good home-defence gun, but it is not a good concealed carry weapon because of its bulk. I should also note that everyone I've known who's bought a Taurus auto has been very satisfied with it.



Left: One of the most useful features of the PT-100 is that its safety can function as a normal thumb safety for 'cocked and locked' carry, or can also function as a hammer drop for first round double-action carry.

Right: During a rapid 3-round burst of fire, the PT-100's muzzle does not rise substantially.

Below left: Although the Taurus shot to the right in out-of-the-box sighting, accuracy was more than acceptable at 50 feet.



Below: Chambered for the potent .40 S&W cartridge, the PT-100 is a formidable combat auto.



Tokarev TT-33

Type: single-action semi-automatic pistol.

Maker: Tula Ordnance Factory, USSR, and others (see notes).

Calibre: 7.62x25mm.

Overall length: 185mm, 7.28in.

Barrel length: 115mm, 4.53in.

Weight, empty: 780gm, 27.5oz.

Magazine capacity: 8+1.

Construction: blued steel, fixed sights.

The Tokarev has been made in the USSR and many satellite countries, including Poland (FB-monogrammed grips), the People's Republic of China (Types 51 and 54), Hungary (Pisztoly 48M) and Yugoslavia (M57). Modified guns have been made in North Korea, as the T68, and in Hungary ('Tokagypt') and Yugoslavia in 9mm Parabellum (M65 and M70). The 'Tokagypt' was made for the Egyptian army.

Until 1930, the Red Army was still equipped with the gas-seal revolver designed by the Belgian Nagant brothers and adopted in 1895. However, as the Mauser C/96 pistols were also common in Russia, the decision was taken to adopt an automatic pistol. The engineer Fedor Tokarev based his work on two existing guns – the M1911 US Army Colt Government Model, from which he took the locking system, and the older Mle 1903 FN-Browning that provided the general overall shape. The cartridge was a minor adaptation of the 7.63mm Mauser type. The Tokarev was initially disliked, and several important changes were made to the design. In fact, had not war intervened, it is probable that the Tokarev would have been replaced in the early 1940s. During the war, however, such large quantities of the gun were made – probably because tooling already existed – that production continued in the post-war period until the advent of the Makarov (q.v.).

The TT is rugged and surprisingly well balanced. It incorporates the Colt-Browning short-recoil action, with the barrel locked to the slide by two transverse ribs, and the characteristic link sharing the slide-stop spindle. The guns also feature a removable barrel bushing, a stirrup-type trigger, a short recoil-spring guide, and a Colt-type magazine. Several changes were made to simplify production, including entirely circumferential locking ribs and a strengthened muzzle bushing. The recoil-spring plug has been replaced by a simple disc, blocked by the base of the muzzle bushing, and a clever 'packaged' trigger unit facilitates dismantling.

This sub-group contains the hammer, the sear, the disconnector and the mainspring, and can simply be pulled out of the frame for maintenance. The tiny assembly, flawlessly made, has two prolongations serving as the cartridge guides and – in the case of the left bar – the ejector.

The principal novelty in the trigger system is the mainspring, which lies inside the hammer. When the hammer is cocked, compressing the spring, a pull on the trigger presses the stirrup to disconnect the sear spring from the hammer. The hammer then flies forward under the pressure of its own spring, strikes the firing pin running through the breechblock and fires the gun; recoil then causes the slide/barrel group, locked together, to run back until the actuating link pulls the breech downward, disengaging the locking lugs and allowing the slide to reciprocate alone.

The Tokarev is extremely easy to dismantle, being essentially similar to the Colt Government Model apart from the omission of the recoil spring and the locking of the slide stop with a simple spring-clip. This clip must be pulled backward to free the slide-stop pin. The grips are retained by a novel, if inconvenient rotary locking bar inside the butt.

Like many Soviet firearms (cf., PPSH submachine-gun), the Tokarev places a premium on simplicity, reliability and simple operation. It is a typical military weapon, not intended for modern combat shooting techniques, and its protruding bobbed hammer will invariably snag clothing during a concealed-carry draw. The simplification of its design is even carried to a point where there is no manual safety at all! The Tokarev must be carried with an empty chamber or with the hammer carefully lowered to half-cock on a loaded chamber, the latter being potentially dangerous and particularly ill-advised.

The magazine catch, like the slide stop, is crude but efficient; and the sights are not among the best, being too thin and too low. However, the Tokarev is easy to fire and very accurate. Though the 7.62mm Tokarev ammunition is rarely encountered in the West, the test gun fired Fiocchi-made 7.63mm Mauser cartridges flawlessly. The trigger pull on the test pistol measured just 3.1kg (6.8lb), its operation being good but unexceptional.

The Tokarev is a rough, reliable gun: one of the classics from the 'other side'. Among the best of the variants, however, are the Hungarian 48M, the Yugoslav M57 and the essentially similar 9mm Tokagypt.



The left side view shows the clean lines of the Tokarev, with a plain trigger . . . and no manual safety catch. The five-shot group is typical of this gun, which is easily handled.

The right side of the Tokarev displays the flat clip retaining the combined slide stop/dismantling pin. The protruding bobbed hammer has to be thumb-cocked on the draw.



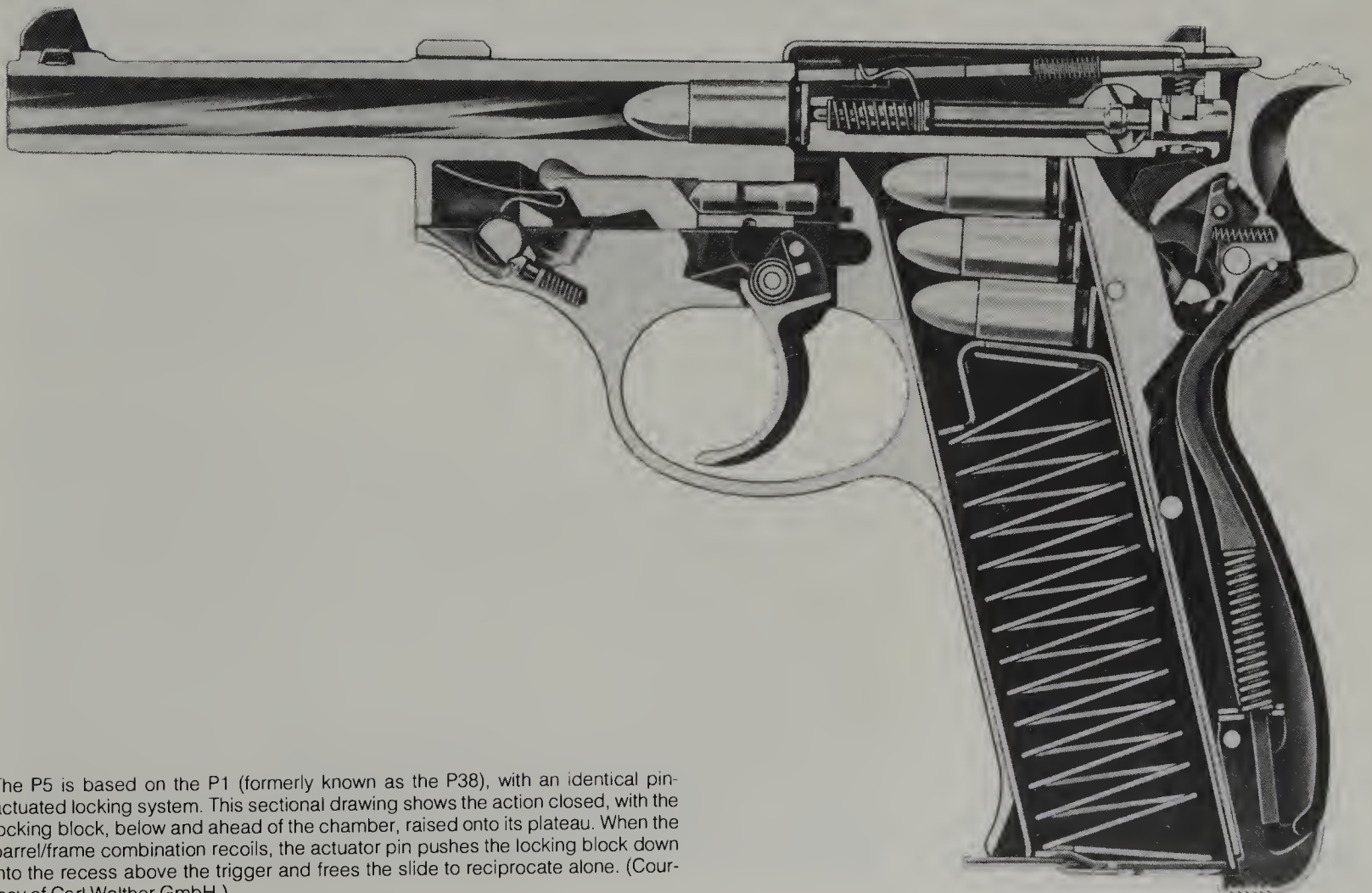
Field-stripped, the Tokarev shows some interesting features, including the removable annular bushing – not cut or slotted, like most other Browning-type guns – and the tiny 'packaged' trigger mechanism. The locking lugs are milled entirely around the barrel to simplify production.



The sights of the Tokarev are far better than those of many classic military pistols, though too thin and a little low.



This group – the nine shots to the left of the gun – was obtained with the P5 from 15m. In adverse light, the 'improved' sights point low.



The P5 is based on the P1 (formerly known as the P38), with an identical pin-actuated locking system. This sectional drawing shows the action closed, with the locking block, below and ahead of the chamber, raised onto its plateau. When the barrel/frame combination recoils, the actuator pin pushes the locking block down into the recess above the trigger and frees the slide to reciprocate alone. (Courtesy of Carl Walther GmbH.)

A comparison of the P5 and the P1, showing the differences in size and the absence of an ejection port on the right side of the P5 slide. The magazines are interchangeable.

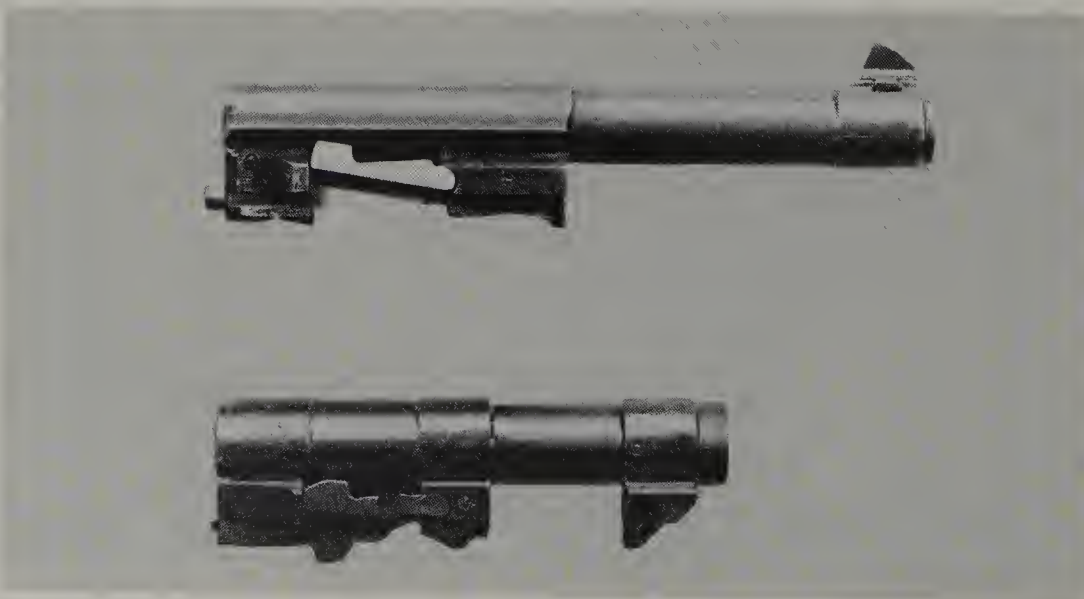
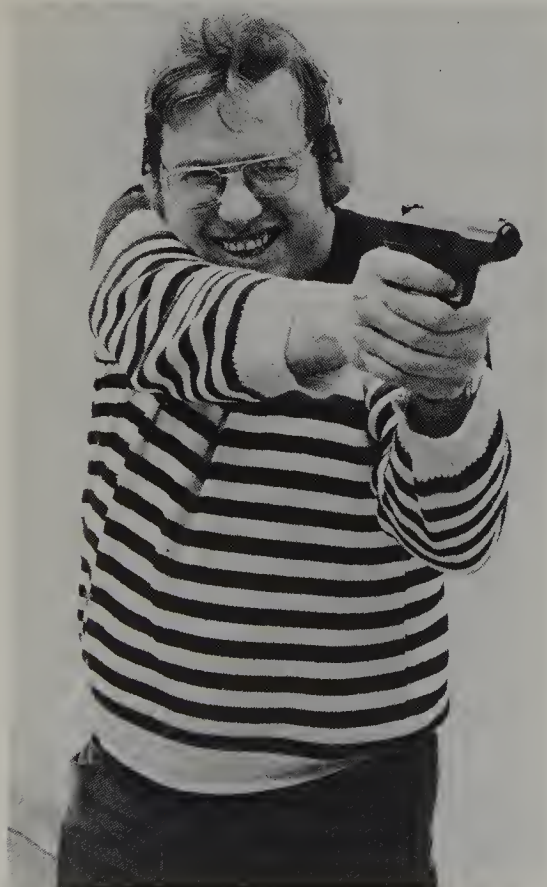


(Right) The slide-tops of the P1 (top) and P5 (bottom).

(Bottom right) The P5 barrel, although much shorter than the P1's, gives excellent accuracy. Note the slight differences in the locking blocks, and the absence of a front sight on the newer gun (its sight being carried on the slide).



(Below) The P5 balances well, but I rarely use the extended trigger guard to facilitate a two-hand grip.



Walther P88

Type: double-action semi-automatic pistol.

Maker: Carl Walther GmbH, Ulm/Donau, Germany.

Calibre: 9mm Parabellum.

Overall length: 195mm, 7.6in.

Barrel length: 102mm, 4in.

Weight, empty: 895gm, 31.3oz.

Magazine capacity: 15+1.

Construction: blued steel slide with light alloy frame, partially adjustable sights.

Very recently introduced is a 'compact' model: overall length 181mm/7in, barrel length 97mm/3.75in, weight, empty: 822gm/28.8oz, capacity 14+1; the comparison between all dimensions shows that the name 'compact' is purely academic.

The Walther P88 is the latest step in the evolution of the old P38 design and the manufacturer presents it, in the owner's manual, as 'combining an experience of more than a half-century in handgun manufacturing'; one of the most compact pistols in the category of big bores with large capacity, inevitably it has some of the characteristics of many of its contenders, such as the combination steel/alloy for its construction or its external look.

In the chapter covering the P5 we briefly examined the obvious evolution from P38 to that pistol; between the P5 and the P88, the evolution is more subtle, the new gun having been (re)adapted to some very classical principles. From the P5 are taken: field stripping, combined decocking lever/slide stop, laterally only adjustable back sight, anti-backlash protruding at the back of the trigger, the whole firing-pin safety system. The reintroduced classical principles are: locking (barrel/slide) and unlocking (under barrel cam) systems, feed ramp integral to the chamber, simple return spring on a long guide, large-capacity magazine, magazine catch behind the trigger guard. New characteris-

tics: combination between ejector on the left side and ejection port opening on the whole width of the upper part of the slide, ambidextrous magazine catch (as on the Czech CZ83 and the Yugoslav CZ99), ambidextrous decocking/slide freeing lever (but blocking manually the slide in its back position is only possible from the left side of that lever).

The P88 is delivered in the same kind of box as the P5, with two magazines, cleaning rod, control target and an excellent owner's manual in four languages (German, French, English, Spanish). Assembly/disassembly of the gun, including field stripping, are simple and easy; the handling is very good because of the concept of the large enveloping plastic grip plates, but some users will possibly



Right-hand view, note the ambidextrous decocking lever and magazine catch, and compare the overall dimensions with those of a Taurus copy of the Beretta 92 (same capacity for both guns).



Left-hand view, note the squared look, the absence of thumb-rest on the enveloping grip plates, the anti-backlash protruding on the trigger, the dismantling lever on the left and the square post of the decocking/slide stop lever.



Above: Field stripped and grip plates removed, revealing some of the secrets of its mechanism and the return to a more conventional locking/unlocking system.

Above right: Detail of the astute decocking/slide stop system combined on one lever only.

Right: Detail of the ambidextrous part of the lever, showing that it is impossible to block manually the slide from that side.



be perturbed by the lack of any groove in which to rest the thumb. Freeing the slide and decocking the hammer are easily done without modifying the grip of the strong hand, the left-hand thumb and forefinger passing, one side each, over the slide and pulling the ambidextrous lever. One of the main advantages of the P88 over its predecessor is the capacity to block manually the slide in its back position.

With the help of some friends, some hundreds of shots of different brands were shot through the P88 without incident of any kind; the pistol is extremely pleasant to shoot and really accurate. The trigger pull is its only drawback: on the sample gun tested, double-action was very very long (26mm, 1in) with a weight of some 6kg/13.2lb. and the

single-action was simply horrific, with still a course of 12mm (nearly 0.5in) and a weight of 3kg/6.6lb.

Well, the P88 is undoubtedly a good service/defence gun, with its absolute shock and fall safety and really good manipulating characteristics; the point is that, coming so long after some other excellent pistols of the same category, such as the SIG P226, the CZ75/85, the Astra 80, the Llama M-82, to name but a few, the concept is already obsolescent when compared to such new designs as the Glock or the new line of 'double-action only' pistols such as the S&W, Ruger, IAI/AMT, or even the Colt 'All American' and the Browning 'Double Mode'.

Walther TPH

Type: double-action automatic.

Maker: Carl Walther GmbH, Ulm/Donau, Germany, and Interarms, Alexandria, VA, USA.

Calibre: .22 Long Rifle and .25 acp.

Overall length: 135.4mm, 5.33in.

Barrel length: 67.3mm, 2.67in.

Weight, empty: 326gm, 11.5oz.

Magazine capacity: 6+1.

Construction: German models blued steel with alloy frame; US models stainless steel, both with fixed sights.

The TPH is really a scaled-down Walther PPK, having the same type of blowback action, the same hammer drop, same firing pin locking safety, and same method of disassembly. Being between three-quarters the size of the PPK, however, the TPH is much easier to conceal. For most of its existence the TPH was banned for sale in the USA since it didn't meet the requirements for importation under the 1968 Gun Control Act, but throughout much of the rest of the world it was an extremely popular pistol. US police agencies were allowed to import the TPH and a few were brought in for law enforcement use. GIs also brought in a small number from Germany, but the pistol was always somewhat rare, though it did have an avid following among those who had used it. Production of a stainless steel version in the USA beginning in late 1988/early 1989 finally allowed the TPH to be available to a much wider public. Unfortunately, the US version quickly established a reputation as being very unreliable.

Reportedly, current production of the TPH in the USA has finally overcome this problem, though both examples I owned a couple of years ago were plagued with unreliability. The two German examples, I've owned, on the other hand, have been relatively reliable, though all small .22 autos seem to have some glitches in functioning. Ammunition choice is extremely important for the TPH. CCI Stingers seem to work best in mine, offering good power and the best reliability. I should point out that the .25 acp version is more reliable than the .22 version because of the rimless case of the .25 acp. Still, the TPH is a pistol that needs to be shot frequently to keep up one's skill; hence, the preference for the .22 Long Rifle version by most users, including myself.

The TPH is a very streamlined little pistol, handling very well and having good ergonomics despite its small size. As a result, many people including me shoot better with it than with other very small pistols. Despite the fact that its sights are rudimentary (a small notch rear with a white bar and a blade front with another white bar) one can shoot this pistol quite accurately. At 25 feet, I find that I can keep a full magazine in 3 inches regularly firing the first round double-action and subsequent rounds single-action. Because of its

small calibre one should practise bursts of two or three rounds to enhance its stopping potential.

Together with the Seecamp LWS-32, the TPH ranks as one of the two best deep concealment pistols in the world. The TPH has those characteristics desirable in a pocket pistol: double-action operation for the first round, sleek lines with few protrusions likely to snag in the draw, light weight to prevent sag, and slimness. It also uses a bottom-of-the-frame magazine release which some prefer since it decreases the likelihood of the magazine being accidentally released in a pocket. To be honest, I've carried pistols with both types of release in pockets and have had no problems, but some feel better about butt releases in pocket pistols.

As with many auto pistols having first round double-action capability, first-round pull on the TPH is fairly heavy followed by a much lighter pull for subsequent rounds. This doesn't bother me because I shoot a lot of double-action pistols and easily adapt to the difference. Trigger pull certainly isn't great on the TPH's I've fired, but neither has



At top the US-produced stainless steel Walther TPH and at bottom the German-produced alloy frame version. The author has found the German version to be slightly more reliable and also favours it for its lighter weight.

it been terrible on any of them either. I would rate it about average for double-action autos.

I should re-emphasize the fact that every .22 TPH I've fired has been very sensitive to the ammunition chosen and that anyone purchasing one should also purchase at least 100 rounds or more of different types of .22 Long Rifle ammunition and plan on testing the gun until the most accurate and most reliable ammunition is found. The extra time and trouble will be well worthwhile since you'll end up with a pocket companion which can go with you everywhere.

This is an extremely well-made little pistol, as all Walthers are, and fills an extremely important niche in subcompact combat pistols. Although I rate it and the

Seecamp about equally, it is more widely available and, hence, will be used by more shooters. The jury is still out on the American TPH since I have not yet fired one of the newest production to see if reliability has improved. I hope it has because I really like the idea of stainless steel in a pocket pistol to protect it from perspiration. On the other hand, I like the slightly lighter alloy frame: those 3 fewer ounces keep my pocket from sagging quite so much. What I would really like to see is an alloy frame with the rest of the pistol fabricated of stainless steel. One final point in favour of the TPH, particularly the .22 Long Rifle version, is that in some parts of the world, .22 calibre pistols are not as strictly regulated as are centrefire calibres. As a result, it may be easier to own than some other combat pistols.



The TPH disassembles in the same simple manner as the Walther PPK. The triggerguard rotates downward to allow the slide to be withdrawn to the rear from the frame.



Note the slight finger extension on the TPH's magazine and the hammer drop safety on the slide. Note also the size in comparison to, for example, a passport.

The TPH is most useful as a second or 'backup' gun. The author prefers to carry his in a left-hand pocket for ease of access with his 'weak' hand.



The best way to practise with the TPH is at close range with multiple shots delivered quickly. In this case, the author uses the TPH against a 'pepper-popper'.



The TPH is a very easy pistol to fire. Here the author fires a three-shot rapid-fire 'burst', yet there is no muzzle movement.





Shot placement can be extremely important with a small-calibre weapon such as the TPH. The TPH does, however, offer excellent accuracy as this 10-yard group illustrates.



The TPH's size can be judged in comparison here with the Walther PPK (at top). Note that the two guns are very similar in design, varying only in size.

Dan Wesson Model 15

Type: double-action revolver.
Maker: Dan Wesson Company, Monson, Massachusetts, USA.
Calibre: .357 Magnum.
Overall length: 305mm, 12.0in.
Barrel length: 152mm, 6.0in.
Weight, empty: 1,245gm, 44oz.
Cylinder capacity: 6.
Construction: blued steel, adjustable sights.

The Dan Wesson .357 Magnum has two primary recommendations as a combat handgun: it is versatile and accurate. Its versatility comes from the rapidly exchangeable barrels, adjusting length from 2in to 8.5in or more. For combat use, 2in, 3in and 6in barrels are really the only practicable choices. Grips can also be interchanged to convert the Dan Wesson from a round-butt combat stock to a square-butt target pattern.

The barrel and its shroud are removed with a special tool, and simply replaced with the length desired. A feeler gauge ensures the proper cylinder/barrel gap. It is normally necessary to re-sight the gun after changing barrels, since each barrel will have a different point of impact. However, experience usually teaches the firer where each of his barrels will shoot and he can often adjust the sights almost automatically.

The quality of Dan Wesson revolvers is normally quite high, and the guns have a good solid feel. Their lines are clean, with little clutter, and the 'light switch' cylinder release lies on the yoke in front of the cylinder rather than in the more traditional position on the rear of the frame. The Dan Wesson system seems to lock the cylinder securely, though rapid reloading takes some practice. Once mastered, the Dan Wesson can be loaded about as quickly as its rear-latching rivals. I can probably reload Smith & Wesson revolvers more quickly than others, but this is doubtless a personal preference. The Dan Wesson cylinder is heavy enough to handle .357 Magnum loads without problems. Extraction is smooth and efficient. The ejector rod is housed in a full Colt Python-type under-barrel lug, though, unlike the Python's, the Wesson type is squared off. This lug puts substantial weight under the barrel, where it helps to dampen recoil and hold the sights on target. The rib along the barrel provides another superficial similarity to the Python.

Concealability naturally depends on which of the barrels is fitted, though I do not feel that the 15-2 (2in barrel) is as good a concealed-carry gun as the Smith & Wesson Models 13, 19, 65 and 66 with 2in barrels. The 15-2 is bulky, even with the shortest barrel in place. I would choose the 4in or 6in versions carried in an open holster.

The 15-2 sights are quite good, with a red insert in the front ramp and a click-adjustable square back-sight notch

wide enough to facilitate reasonably rapid target acquisition. A small Allen key is needed to adjust the back sight, one being incorporated in the barrel-changing tool. The sight radius with the 6in barrel is, of course, appreciably better than the short-barrelled options.

The semi-target type hammer is easily cocked with the thumb, though I am more interested in the gun's double action performance. The trigger is also a semi-target pattern, but is smooth rather than ribbed. Internal safeties include a transfer bar and a rebounding frame-mounted firing pin. This combination prevents the Dan Wesson firing unless the trigger is pulled. The trigger pull on the test gun was smooth and crisp, an adjustable Allen screw behind the trigger acting as a stop to minimize backlash.

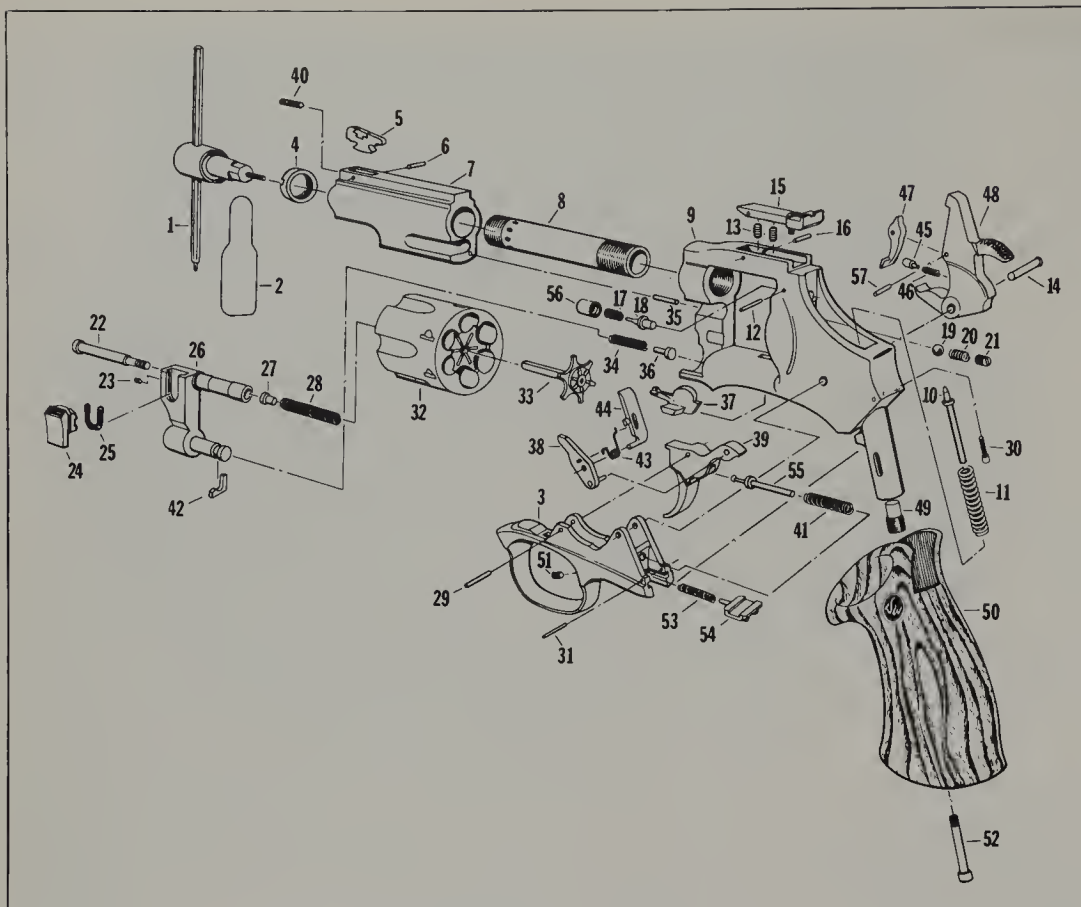
The interchangeable grips allow the firer to choose his favourite for specific applications. Since the Dan Wesson revolvers have a central post projecting below the frame (thus omitting a conventional backstrap) an unusually comprehensive selection of grips is available. I find the smooth walnut grips supplied with the sample gun very comfortable indeed. Recoil is virtually imperceptible with them, and they proved ideal during rapid double-action shooting. I find that the target grips supplied with Colt or Smith & Wesson revolvers fit my hand very poorly, yet those on the Dan Wesson are much better.

The bright blue finish on the Model 15 is very attractive, though a stainless steel .357 Magnum is also made for those seeking corrosion resistance.

I have had far less experience shooting Dan Wessons than the products of the other major US revolver manufacturers and, as a result, I am always amazed at their accuracy. The test gun was no exception; at 15 yards, double-action group diameters of 2.5in were not uncommon, while some 25 yard groups ran as tight as 3in (though the average was nearer 3.5-4in). The 6in barrel and underlug helped keep muzzle flip to a minimum, and recovery time in two- or three-shot 'bursts' was very good. The most accurate load proved to be the 158gn Federal jacketed soft-point, though 125gn CCI-Speer jacketed soft-point, 110gn Federal and 158gn CCI-Speer jacketed hollow-points all performed adequately.

The Dan Wesson Model 15 is a very accurate and versatile weapon, though it is somewhat bulky to be concealed. However, with the 2in or 4in barrel, it could be covertly carried in suitable circumstances. For normal police duties – or home defence – the 4in barrel is probably the best. The 6in barrel on the test gun certainly aided accuracy, but would undoubtedly slow the draw. Another point to remember about long barrels is that they may be used as a lever by an assailant attempting to disarm the shooter.

The Dan Wesson's accuracy makes it popular with silhouette shooters and handgun hunters alike, for some of whom it doubles as a defence weapon. The Dan Wesson is at its best in areas where restrictive legislation prevents owning several differing guns. A Model 15 owner, in effect, already owns several guns in a single package.



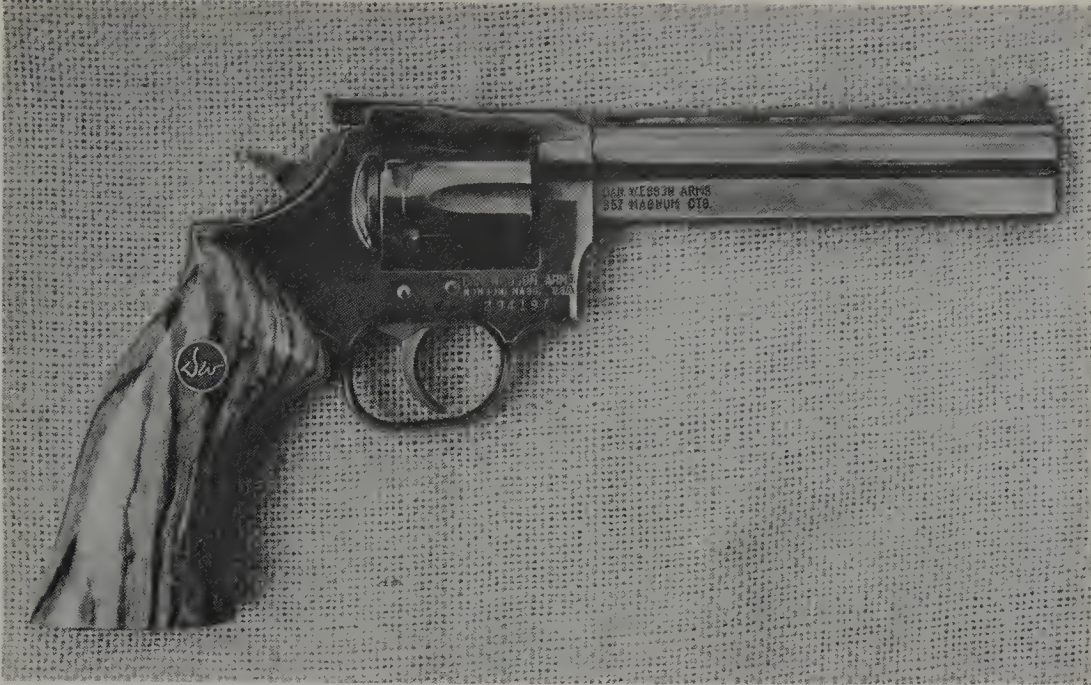
This shows a short-barrelled version of the Dan Wesson Model 44 revolver. Dan Wesson produce or have produced a model 11, 12, 14 & 15 (.357 Magnum only), a Model 8/9 (.38 Special), a Model 22 (.22 LR or .22 Magnum), a Model 41 (.41 Magnum) and a Model 44 (.44 Magnum).



Key

- 1 Barrel Wrench
- 2 Gauge, Barrel & Cylinder Clearance
- 3 Trigger Guard
- 4 Barrel Nut
- 5 Front Sight
- 6 Front Sight Pin
- 7 Shroud
- 8 Barrel
- 9 Frame
- 10 Mainspring Guide
- 11 Mainspring
- 12 Firing Pin Retaining Pin
- 13 Rear Sight Elevation Tension Spring
- 14 Hammer Pivot Pin
- 15 Rear Sight Body
- 16 Rear Sight Retaining Pin
- 17 Firing Pin Spring
- 18 Firing Pin
- 19 Cylinder Aligning Ball
- 20 Spring, Cylinder Aligning Ball
- 21 Aligning Ball Screw
- 22 Ejector Rod
- 23 Latch Retaining Screw
- 24 Latch
- 25 Latch Spring
- 26 Crane
- 27 Ejector Rod Bushing
- 28 Ejector Spring
- 29 Trigger Pivot Pin
- 30 Mainspring Retaining Screw
- 31 Trigger Assembly Latch Retaining Pin
- 32 Cylinder
- 33 Extractor
- 34 Bolt Plunger Spring
- 35 Shroud Locating Pin
- 36 Bolt Plunger
- 37 Bolt
- 38 Hand
- 39 Trigger
- 40 Sight Retaining Screw
- 41 Trigger Return Spring
- 42 Crane Lock
- 43 Hand Spring
- 44 Connector
- 45 Strut Plunger
- 46 Strut Spring
- 47 Strut
- 48 Hammer
- 49 Mainspring Seat
- 50 Grip
- 51 Trigger Stop Screw
- 52 Grip Screw
- 53 Trigger Assembly Latch Spring
- 54 Trigger Assembly Latch
- 55 Trigger Return Spring Guide
- 56 Firing Pin Bushing
- 57 Strut Pivot Pin

The Dan Wesson is a handsome gun, with good lines.



The heavy ribbed barrel and smooth combat grips are noteworthy in this view of the Model 15.



This not only shows the heavy barrel shroud of the Dan Wesson revolver, but also the nut securing the interchangeable barrels.



Dan Wesson's efficient bar-type attachment allows grips to be selected for individual tasks.

A long barrel and moderately heavy frame help damp the recoil of the Dan Wesson Model 15, even with full-power .357 Magnum loads.



The Dan Wesson revolver displayed excellent accuracy, as this 25 yard double-action group illustrates.

Zastava Arms CZ-99

Type: double-action semi-automatic pistol.
Maker: Zavodi Crvena Zastava, Kragujevac, Yugoslavia (Serbia).
Calibre: 9mm Parabellum.
Overall length: 190mm, 7.50in.
Barrel length: 108mm, 4.5in.
Weight, empty: 860gm, 30oz.
Magazine capacity: 15+1.
Construction: combination steel/alloy.
The same pistol, chambered in .40S&W, is marketed under the name CZ-40; magazine capacity is 11+1.

The CZ99 is not, as may be thought, the follow-up of the Czech CZ85; it is a close copy of the SIG P-226, made in a Serbian facility known (now, ironically enough) under the name 'Red Flag Factory'.

This State arsenal, the main Yugoslav arms manufacturer, has not until now specialized in pistols, its only productions in that field having been the M57 (domestic copy of the Tokarev TT33, then the service sidearm in all the Warsaw Pact countries, and incorporating some slight but interesting modifications, such as a long guide for the return spring and a magazine with one extra round), and the M70 (compact pistol chambered in 32ACP or 380ACP, with a more modern external look but using, astutely, a large number of parts identical with the M57).

Production of the Kragujevac arsenal was always of a very high standard, and the recent introduction of large US investments enabled the manufacturer to buy ultra-modern CNC machinery, while at the same time the new political and commercial relationships between the USA and most of the old eastern European nations has led to the lifting of the ban that hindered the sales of such good smallarms as, for

example, the CZ75/85. As evidence of this, the new CZ99, imported into the USA by TD Arms of New Baltimore (Michigan) has already had the benefit of a large advertising campaign in specialized US magazines, the frame is typically marked on the right side 'Please read instructions before use', and the user's manual included in each box is written in English only. So, this new pistol has obviously been introduced to contest the success of the renowned SIG P-226, not the cheapest, but one of the most appreciated pistols in the circles of US professional gun-toters.

I will not describe here the characteristics taken from the SIG P-226: see the appropriate section of this book for a complete evaluation of that pistol. It's much more interesting to emphasize the differences between the two guns, small but showing the will of the Yugoslav engineers to upgrade, if possible, the renowned original.

The most visible differences are external and purely 'cosmetic': shape of the trigger guard, dismantling lever, sights, hammer, grooves at the rear of the slide, etc. They are unimportant, having nothing to do with the functioning, efficiency, accuracy or reliability of the gun.

Much more important are some internal modifications. First, and probably the most fundamental, the re-design of the grip frame with an integral backstrap protecting the mainspring, where the Swiss pistol left that spring external, only protected by the plastic enveloping grips. The slide is milled from a bar of stock steel in place of a metal sheet. The gun is factory delivered with excellent wooden grip plates (polymer available on request) and equipped with tritium night sights; these are optional on the SIG, but very expensive.

All the commands are really ambidextrous: the magazine catch can be pushed from both sides, a particularity that

Left-hand side: note some minor differences from the SIG P-226 in the shape of trigger guard, hammer, dismantling catch, sights, grooves on the slide, etc., and wooden grip plates; much more important is the suppression of the slide stop lever behind the decocking lever, both functions (freeing the slide and decocking the hammer) being assured by the same lever.

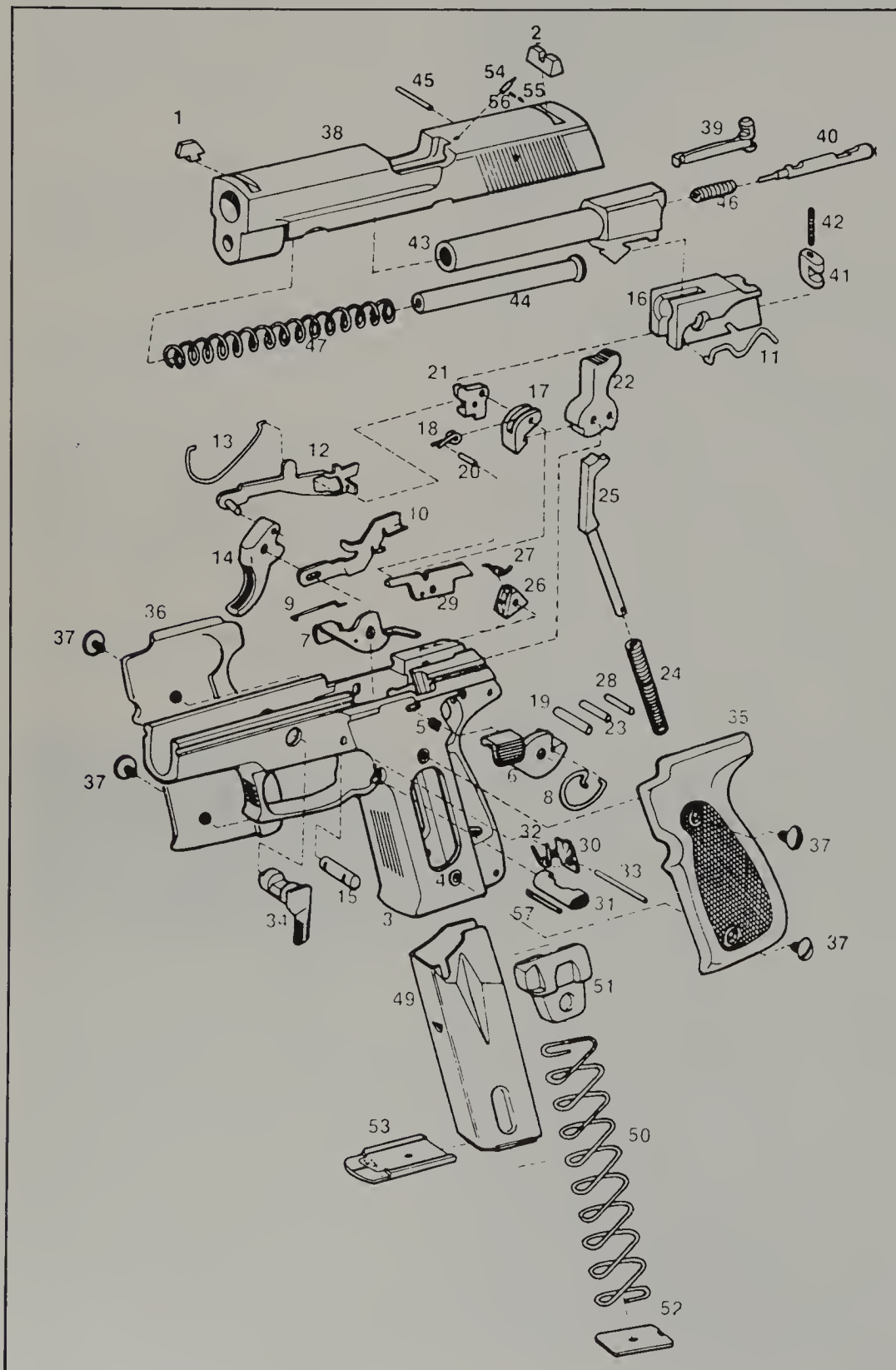


until now is found only on the Czech CZ83, most recent pistol models providing only the possibility of reversing the catch, which is not really practical under fire when, for example, the strong hand is suddenly disabled; and the decocking lever, which acts also to free the slide, is doubled on the right side without adding to the width of the pistol since it is conveniently placed in a recess of the grip plate.

The most practical modification is the suppression of the slide stop lever which takes place, on the P-226, just behind the decocking lever; here, the decocking lever is also linked to the slide stop and, when the slide is blocked in rear

position, the first push frees the slide and the second decocks the hammer. Every 'practical' shooter will acclaim any simplification in the handling of a gun, provided the safety is totally secure, as is the case with the CZ99. So this pistol is definitely much more than just a copy of a noted model.

For the actual shooting test, I was lucky enough to have with me an instructor from the FBI Academy, who was visiting Brussels; the FBI was then in the process of having their recently introduced S&W Mod.1076 recalled to the factory in a hurry and replaced for a time by the SIG P-226.



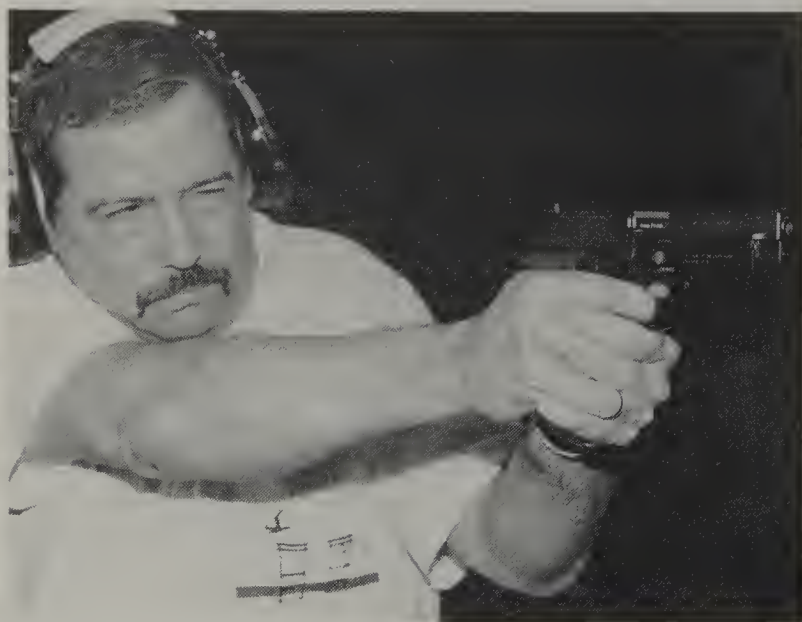
The exploded view shows clearly that the slide is made from a stock bar, and that the CZ99 is still using, like its model, 'piano wire' as springs.

Right-hand side: note the markings, typical of an 'American' gun, the ambidextrous decocking/slide stop lever in a recess of the grip plate, and the protruding magazine catch, which can be pushed from each side and is consequently fully ambidextrous.



Below: Field stripping is exactly the same as for the SIG pistol; note the full backstrap of the grip frame, protecting the mainspring.

Below right: The gun is relatively high on the hand (note that the author's hand is as high as possible without 'pinching', just under the tail of the receiver's frame).



So the rhapsodic comments about the CZ99 from a very experienced instructor who was very familiar with the P-226 was valuable, and he was especially impressed by the full ambidextrous capacity of the gun.

The trigger pull is not exceptional: 5.5kg (12lb) and a course of 20mm (0.78in) with a very perceptible backlash in DA, but only 2kg (4.4lb) and 8mm (0.31in) in SA. The first magazines were filled, at the request of the importer of both gun and ammo, with some Egyptian surplus ammo, really inexpensive stuff, averagely one of three was a misfire, and most of those went off on a second trigger pull in DA. That is the only advantage I see, provided the shooter is properly

trained (and I must admit most are not), for DA or 'double-action only' pistols on SA or Glocks, you can pull the trigger again, and immediately. But I feel that this advantage is purely theoretical; would you take the risk, in a life-or-death situation, of a second misfire of the same cartridge in place of an immediate 'tap-rack-bang' action to be sure of the next shot?

After that, no other problem occurred with Samson, FN, CCI 'Blazer', Sellier & Bellot, or Federal 'Hydra-Shok' ammunition, and every of the shooters participating in the test admitted that the CZ99 is a very good professional tool for anyone who needs a large-capacity DA automatic pistol.

Appendix One

A personal choice

RENE SMEETS

My personal gun was selected some years ago, when the choice was not as vast as it is today, and no-one likes to put a tried and tested possession aside. When I chose my gun, many of the newest designs were experiencing teething troubles, some had magazines that were too small (such as the Heckler & Koch PSP), the spares for others were difficult to obtain, and guns such as the Beretta 92SB, Glock or Star M30 did not exist.

Being a civilian, I had a completely free choice; I simply had to remember lessons given by the great combat hand-gunners and martial arts instructors of the time, and that my gun would be carried concealed under normal clothes. A slide holster on the strong hip, a shoulder holster or a cross-draw were all possibilities.

I immediately rejected the revolver, owing to its numerous restrictions – not least of which is the unnatural angle of the grip compared with most automatic pistols and the bulk of the cylinder. I did not select a double-action automatic, as I was convinced by Jeff Cooper's arguments and no regulations forced me to carry a gun with the hammer down on an empty chamber. I am convinced that if you have to draw, you must be able to fire as quickly as possible and that this is best achieved by proper training. Finally, I felt I was restricted to just two guns: the Colt Government Model and the FN-Browning High-Power, both universally battle tested and known for their reliability.

Finally, I rejected the .45 ACP, which was too large and restricted magazine capacity too greatly – though the Colt is certainly as reliable as the High-Power and, in fact, more robust. I know that police statistics indicate that 90 per cent of all actions involve fewer than three shots, and that if I have to defend myself, it seems, it will be in or near my car against two or three aggressors. However, the '7+1' of the Colt seemed too small; why risk being caught with an empty gun, or without a spare magazine, when I could have 13+1? I regarded 9mm Parabellum as the most versatile combat cartridge, offering good stopping power, excellent

penetration with full metal-jacket bullets, and an ability to pass through light 'armour' such as car doors and many supposedly bullet-proof vests. Though it was once true that the choice of 9mm Parabellum bullets was restricted, this is no longer so: soft- and hollow-points, super-penetrators and greatly improved short-range man-stoppers are all readily obtainable.

Few guns are perfect combat tools straight from the box, apart, perhaps, from the Heckler & Koch P7M13 (it is dangerous to attempt to improve its trigger pull) and the Glock 17. Though I am not a fan of extensive customization – particularly those 'Christmas Tree' compensators favoured by top IPSC competitors – I was still keen to transform my High-Power into a properly combat-worthy gun.

As the sights on the standard military version were totally unacceptable, I selected the Sport Model with a massive high front sight blade and an adjustable back sight. After removing the superfluous magazine safety, I asked a gunsmith to substitute a fixed back sight and reduce the height of the front-sight blade until I had an 'aim point – hit point' system. The safety lever on the High-Power is uncomfortably short; not only can the thumb be injured while attempting rapid manipulation, but it is easy to miss the safety completely...with potentially fatal results. My favourite pistolsmith made a superb new safety, with a greatly extended thumbpiece, but fitting it required re-cutting the upper part of the grip. The bevelling of the magazine well is not important on the High Power, but the thinness of the walls is not conducive to alteration without unnecessarily complicated gunsmithing.

Trigger improvements can be done in two ways. It is easy to refine the contact surfaces between the sear and the hammer (a speciality of the German company, Peters Stahl) though this can cause problems if the hardness of the contact surfaces is unwittingly destroyed; if the edge of either part breaks away, the gun will fire fully automatically. I preferred the alternative, undeniably more complicated solution in which the spindle of the sear lever is moved a short

distance backward and a new sear made with a longer forward projection. This has the mechanical advantage that a weaker trigger-pull – 1.2 kg (2.6lb) on my gun – is permissible without compromising safety. Unfortunately, the High Power trigger system promotes considerable backlash (or over-travel) after the sear has released the hammer. As a result, an efficient stop-screw was placed ahead of the trigger, taking care to ensure that the trigger was blocked shortly after release rather than before it.

Externally, my gun looks much like the factory version, but the comparatively minor modifications make an enormous difference to its shooting qualities. Since finishing the customization, I have fired an average of a hundred rounds through it per week and participated in many IPSC or police shooting competitions. The barrel has been replaced once, the sear twice, and the hammer once, while the slide recently fractured. The frame is still original, however, and the life of the other parts was materially extended by the modifications.

The High Power is certainly not an easy gun to master, many shooters finding the Colt Government Model easier to use, but I have never found a gun as suited to my hand and my shooting techniques (right or wrong!). And if you re-

member that, with some minor changes, you can use cheaper sixteen-shot Beretta magazines with the HP, there seems little reason to hesitate over buying the FN-Browning. With a little care, and careful choice, it is possible to carry the High Power in a belt-, waistband- or shoulder-holster.

The gun is fast, accurate, reliable and a perfect embodiment of the adage that ‘99 per cent of guns are better than the man behind them’.

Recently, after having at last (with about 16,000 shots having passed through it . . .) broken the unlocking cam, which is one of the reputed weak parts of the system, I equipped my Hi-Power with a very efficient German shock-absorber replacing the old short return spring guide.

Nobody likes to leave an old companion, and I still carry my faithful Hi-Power, considering also that, in my country, it is particularly difficult to obtain a carrying permit and much more so to have it modified for another gun. But, to be honest, if I had to select now a handgun to carry for my personal defence, I would undoubtedly choose either the Glock Model 17 or 19 or the Jericho, the two combat pistols I rate superior to any other at the beginning of the nineties . . .

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